

THEN...



Horse and Buggy Era—1901

MONTANA STATE BOARD OF HEALTH MARKS 60th ANNIVERSARY

NOW...



Era of Air Travel — 1961

1960-1962

31st

BIENNIAL REPORT

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31st BIENNIAL REPORT
1960-1962
of the
MONTANA STATE BOARD OF HEALTH



MARKS

60 YEARS OF PROGRESS

1901-1961

Just as changes in transportation from the "horse and buggy days" to the era of air travel have brought advancement and new problems—so has public health changed since the State Board of Health was created in 1901.

The pictures on the cover of this publication illustrate some of these changes. In the upper left, at the dawn of the century, Dr. Oscar A. Kenck, a practicing dentist in Helena, performed unusual health services. These services were brought to the communities of Augusta and Choteau through the use of a horse drawn trailer. The trailer was his dental office, and he is pictured sitting on the steps. He found "hunting and fishing" so good at Augusta he decided to locate there and has served this community ever since. He still resides in Augusta and at the age of 87 spends one-half day in his office—no longer on wheels.

In the lower right hand picture on the cover, a present-day volunteer worker in a public health program pilots her own airplane as she commutes to committee meetings and carries on other activities. She is Mrs. Orpha Dann, living on her ranch near Circle.

Today, the Board, in cooperation with other community health services, is approaching more closely its purpose as set forth in the 1901 law. An excerpt from this law, RCM 1947, states that the Board "**shall have general supervision of the interests of health and life of the citizens of the state. The board shall continuously study the vital statistics of the state and endeavor to make intelligent use of the records of births, deaths and sickness among the people; it shall make sanitary investigations and inquiries regarding the causes of disease, and especially communicable diseases and epidemics; the causes of mortality, and the effects of localities, employments, conditions, ingesta habits, and other factors and circumstances affecting the health of the people.**"

This 31st Biennial Report has been prepared to comply in part with the next section of this excerpt of the law which continues: "**it shall gather such information in respect to all these matters as it may deem proper for diffusion among and use by the people . . .**"

STATE WATER POLLUTION COUNCIL MEMBERS*

Fred Palmer, Forsyth, Chm.

Walter Everin, Helena, V. Chm.

Fred Buck, Helena

John Hazen, Butte

L. J. Staid, Billings
Term Expired 6 30 61

R. D. Flightner, Darby
Appointed 7 1 61

G. D. Carlyle Thompson, M.D., Helena
Resigned 10 6 61

John S. Anderson, M.D., Helena
Appointed 12 1 61

Winton Wedemeyer, Fortine
C. W. Brinck, Helena, Secy.

ADVISORY HOSPITAL COUNCIL MEMBERS*

G. D. Carlyle Thompson, M.D., Helena
Resigned 10 6 61

John S. Anderson, M.D., Helena
Chm., Ex-officio, Appointed 12 1 61

W. J. Fouse, Helena, Ex-officio

Mrs. R. H. Jesse, Missoula
Term Expired 7 12 61

Mrs. Fern Anderson, Ft. Benton
Appointed 7 12 61

R. R. Veldman, Libby
Resigned 9 1 60

Mrs. Annie B. Brockway, Libby
Appointed 9 1 60

Msgr. James J. Donovan, Billings

Edwin Grafton, Helena

David Gregory, M.D., Glasgow

Robert Howe, Billings

H. H. James, M.D., Butte
Term Expired 7 12 61

R. H. Leeds, M.D., Chinook
Appointed 7 12 61

Mrs. Waldo Moberly, Sweetgrass
Resigned 7 12 62

Al Hansen, Baker
Appointed 7 12 62

G. C. Taylor, D.D.S., Billings
Resigned 6 26 62

Gerald A. Diettert, M.D., Missoula
Appointed 6 27 62

Board for CENTER FOR CEREBRAL PALSY AND HANDICAPPED CHILDREN

M. C. Gallagher, Billings, Superintendent of Schools

Herbert L. Steele, Ed. D., Billings, President, Eastern Montana College of Education

G. D. Carlyle Thompson, M.D., M.P.H., Helena, Resigned 10 6 61

John S. Anderson, M.D., M.P.H., Helena, Executive Officer, State Board of Health
Appointed 12 1 61

OTHER COMMITTEES ADVISORY TO THE SBH

Montana Medical Association

Committees on: Cancer, Fracture
& Orthopedic, Heart & Rh. Fever,
Maternal & Child Welfare, Public
Health, Tuberculosis, Emergency
Medical Service

Montana State Dental Association
Dental Advisory Committee

Narcotic & Alcoholism Advisory
Committee—Until 6 62

Joint Advisory Council on Health
of School-aged Child**

Montana Health Planning Council

Civil Defense Health Services
Professional Advisory Committee

*Created by Legislative Action. Appointments made by Governor
**With the State Dept. of Public Instruction

THE BOARD



R. J. Losleben



S. C. Pratt, M.D.



Paul H. Bowden, D.D.S.



Otto G. Klein, M.D.



Robert D. Knapp, M.D.



Mrs. O. H. Mann



Mrs. John L. Nauditt



John S. Anderson, M.D.,
M.P.H.

"The Board shall consist of seven (7) members, to be appointed by the governor, three of whom shall have a degree of doctor of medicine, one of whom shall have the degree of doctor of dental surgery and three of whom shall be lay persons, each of whom has demonstrated intelligent and active interest in the field of public health in Montana. For the purpose of this act a 'lay person' is hereby defined as any person who does not hold the degree of doctor of dental surgery or doctor of medicine."⁽¹⁾

During the Biennium the following have held membership on the State Board of Health, with the membership as of June 30, 1962 starred (*)

	Appointed or Reappointed Beginning	Ending
H. W. Bateman, M.D., Choteau	7/57	Deceased 4/61
*R. D. Knapp, M.D., Wolf Point.....	4/61	1964
David T. Berg, M.D., Helena, President.	7/58 ⁽³⁾	2/61
*Otto G. Klein, M.D., Helena	2/61	1966
*Paul H. Bowden, D.D.S., Butte.....	7/1/62 ⁽³⁾	1969
Mrs. Elsie Hanson, Superior	7/54	6/61
*Mrs. John L. Nauditt, Superior.....	7/1/61	7/1/68
*R. J. Losleben, Malta, Vice-President 7/57 to 9/61, President 9/61 to present	7/1/60 ⁽³⁾	7/1/67
Mrs. Helen Johnson, Bozeman.....	7/1/58 ⁽³⁾	8/60
Mrs. H. W. Stoutenburg, Missoula	9/60	2/61
*Mrs. O. H. Mann, Missoula.....	2/61	1965
*S. C. Pratt, M.D., Miles City, Vice-President 9/61 to present	2/57	1963
G. D. Carlyle Thompson, M.D., M.P.H., Secretary ⁽²⁾	7/60 ⁽³⁾	10/61
*John S. Anderson, M.D., M.P.H., Secretary ⁽²⁾	12/61	

(1) R. C. M. 1947

(2) Elected by the Board

(3) Reappointed

STATE BOARD OF HEALTH STAFF ORGANIZATION



The Executive Officer Holds Regular Meetings With Representatives From Each Division to Discuss Administrative Matters and to Confer on Plans for the Public Health Programs. Pictured Above at Such a Meeting are (Back of Table From Left to Right): C. W. Brinck, Mrs. K. Elizabeth Burrell, John R. Snyder, D.D.S., Frances Seyler, John C. Wilson, Mary E. Soules, M.D., M.P.H., John S. Anderson, M.D., M.P.H. (Front From Left to Right) Wava L. Dixon, Robert J. Munzenrider, Robert A. James, and Edith Kuhns.

Administration

G. D. Carlyle Thompson, M.D., M.P.H.
Executive Officer. Resigned 10 6 61
John S. Anderson, M.D., M.P.H.
Executive Officer. Appointed 12 1 61
Mary E. Soules, M.D., M.P.H.
Deputy Executive Officer
Acting Executive Officer 10 6 61 - 12 1 61
Robert A. James
Administrative Officer

Microbiology Laboratory

Edith Kuhns, Director
A. Howard Fieldsteel, Ph.D.
Director Virus Laboratory. Resigned
1 9 61
Dighton F. Rowan, Ph.D.
Director Virus Laboratory. Appointed 8 21 61

Child Health

G. D. Carlyle Thompson, M.D.
Acting Director. Resigned 10 6 61
John S. Anderson, M.D.
Acting Director. Appointed 12 1 61
Emerson K. McVey, M.D.
Medical Consultant. Appointed 6 1 61

Program Directors

Center for Cerebral Palsy & Handicapped Children
Walter H. Hagen, M.D., Medical Director
F. Arthur Benson, Coordinator

Dental Health

A. H. Trithart, D.D.S., Director
Resigned 6 23 61
John R. Snyder, D.D.S., Director
Appointed 11/3 61

Disease Control

Mary E. Soules, M.D., M.P.H.
Director

Program Directors

Betty Gilson, M.D., Rheumatic Fever & Heart
Diagnostic Center, Great Falls
Charles W. Pemberton, M.D.
Cancer Control
Frank Brand, M.D.
Heart Disease Control

Environmental Sanitation

C. W. Brinck, Director

Local Health Services

G. D. Carlyle Thompson, M.D.
Acting Director. Resigned 10 6 61
John S. Anderson, M.D.
Acting Director. Appointed 12 1 61

Public Health Education

Mrs. K. Elizabeth Burrell, Director

Public Health Nursing

Wava L. Dixon, Director

Records and Statistics

John C. Wilson, Director

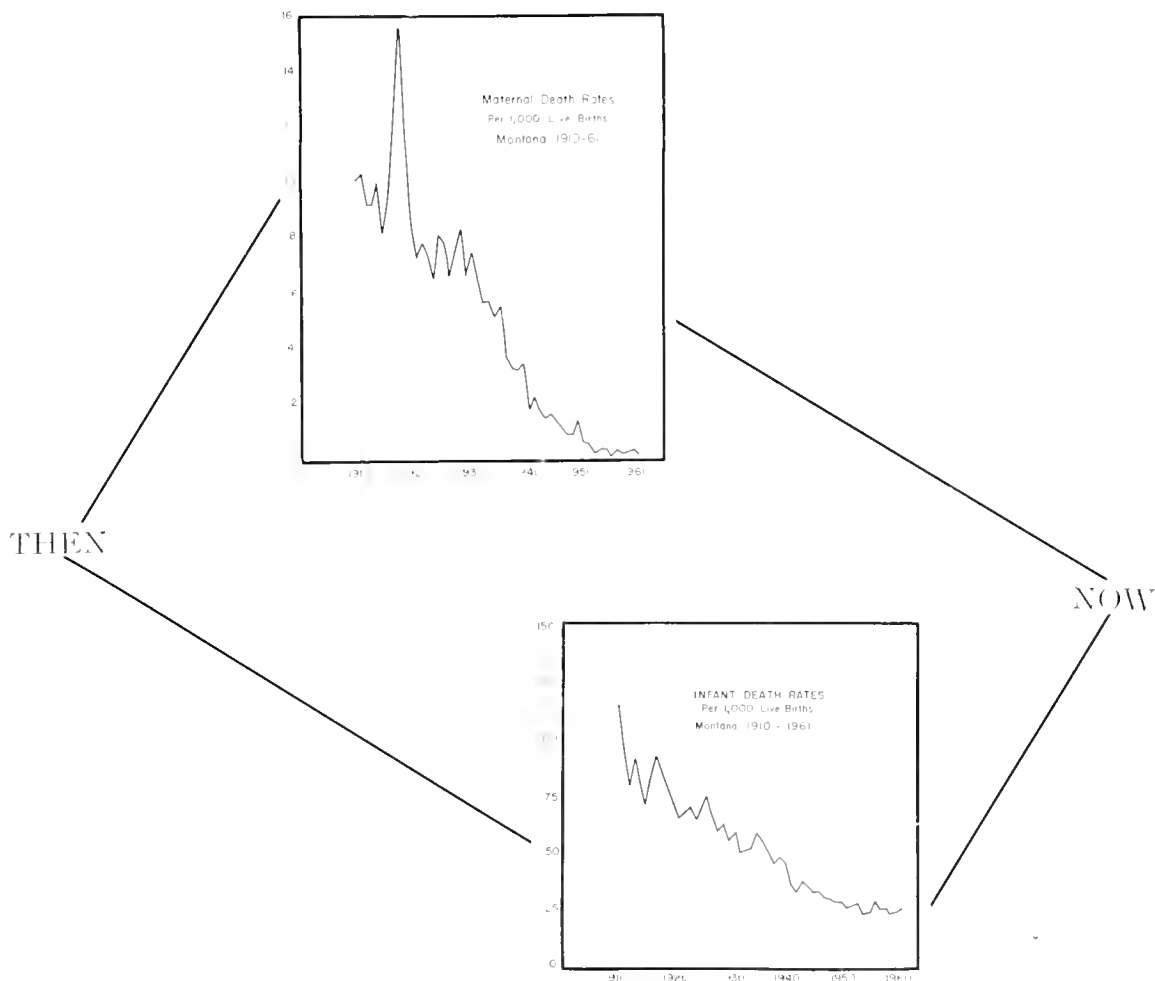
Hospital Facilities

Robert J. Munzenrider, Director

PART I. PUBLIC HEALTH PROGRAMS

CHILD HEALTH SERVICES

Maternal and Child Health, including Health of School-Aged Child



MATERNITY, INFANCY AND PRE-SCHOOL CHILD

In addition to the spectacular decrease in infant and maternal death rates as shown above, the live birth rates per 1,000 population have risen from 16.3 in 1910 to 25.4 in 1961 with the number of live births increasing from 6,124 in 1910 to 17,368 in 1961.

The work of the Maternal and Child Welfare Committee of the Montana Medical Association (organized in 1935) in conjunction with the Child Health Division of the State Board of Health is continuing the study of all infant and maternal deaths as they occur in the State. They are continuing the effort to reduce maternal and infant deaths even further.

During the last several years, these efforts have been directed chiefly to a comprehensive study of the perinatal deaths, that is those deaths occurring before birth and during the first 28 days of the child's life. This is the age group in which the greatest number of infant deaths are occurring.

The studies make it possible to statistically analyze the causes of these deaths as well as to provide consultation to the attending physicians. These studies also give direction to the emphasis needed in public health nursing and health education activities. During this biennium the physicians' reporting form has been revised to bring about certain improvements.

HOSPITAL STATISTICAL STUDY

The Division of Child Health Services continues to carry on a Hospital Statistical Study and prepares a report showing the births, infant deaths, neonatal deaths and stillbirths by hospital. Each of the 66 hospitals in Montana that offer obstetrical services receives a copy of the report. The individual hospital rating is made known only to its own staff.

When the reports are received the data is reviewed at medical and nursing staff meetings. This results in changes in policy and practices when they are indicated and brings about improvements in the obstetrical services provided by the hospital.

OBSTETRICAL FACILITIES IMPROVED

During the biennium improvement has been made in the obstetrical units of 29 hospitals by the construction of new facilities. Extensive remodeling programs which have included obstetrical units have been carried on in 11 other hospitals. New equipment for nurseries or delivery rooms, or both, has been purchased by 38 hospitals.

Other improvements noted included the stabilization of nursing service and renewed interest and enthusiasm in obstetrical nursing. Co-operative hospital nursing projects have been carried out which have led to: better identification of the newborn infants; crib-side nursing care in all newborn nurseries; terminal sterilization of infant formulas and adequate refrigeration; babies held while being fed; discontinuing the use of oil on the skin of newborn babies. With the exception of 9 of the State's 66 hospitals with obstetrical services, the hospitals are carrying out the above techniques in a satisfactory manner. In the Missoula hospitals a program to refer prematures for public health nursing service in the homes is functioning well. This service is to provide guidance and assistance to the mothers for the care of these infants when they first return from the hospital.

IN-SERVICE EDUCATION

The promotion of attendance at the four-week refresher course on "Nursing Care of the Premature Infant" at the University of Colorado Medical Center continues. One nurse attended in 1961 bringing the Montana total to 25 nurses who have had this course.

Contributing to this renewed interest and improvement in procedures has been the consultation provided by the State Board of Health with the hospital nursing consultant visiting 61 hospitals, making 135 visits during the biennium. This has included:

- 31 two-hour classes for student nurses in the "Nursing Care of the Premature"

- 15 in-service education programs for hospital staff nurses

- 5 classes on newborn care for 61 practical nurses.

Other educational programs have been conducted by the State Committee on Maternal and Newborn Care on which the State Board of Health participated. This committee sponsored two Institutes: the 1960 Institute theme was "The Emotional Aspects of Maternal and Newborn Care" and the 1961 Institute, "What is New in Neonatal Emergencies." Since the Committee had fulfilled the purpose for which it was originally organized it was disbanded. In the future the educational meetings will be carried on in a different manner. Since the organization of this committee in 1957, approximately 500 nurses and physicians have attended institutes held in eight communities of the State.



Consultation on Nursing Problems That Are Currently Occurring in Montana was Given by the Out-of-State Speakers Pictured Here at the Fifth Institute on Maternal and Newborn Care. On the Left, Robert A. Aldrich, M.D., Professor and Exec. Officer in the Dept. of Pediatrics, and on the Right, Russell de Alvarez, M.D., Professor and Exec. Officer of the Dept. of Obstetrics and Gynecology, Both in the Medical School of the University of Washington in Seattle. Almeda Allen, R.N. of Denver, is Pictured in the Center. She is an Assistant Professor of Child-Health Nursing at the Medical Center of the University of Colorado.

EDUCATION FOR PARENTHOOD

There were 1,117 prenata's who had the advantage of the "Education for Parenthood Program" which is on-going in 23 communities. These discussion groups are held for two hours at each of six or seven sessions. Husbands in 17 communities were included in at least one of the sessions.



Pictured Above is One of the Sessions Conducted by SBH Staff for the Preparation of Nurse Leaders in the "Education for Parenthood Discussion Groups."

The program for high school students is described on page 8. For both the adult and high school programs a total of 48 professional persons provided leadership services. They were: public health and maternity hospital nurses, inactive nurses who volunteered their services, health educators and one health officer.

The value of the program lies in its being a community facility for meeting the needs of young families, both prior to marriage and during pregnancy.

The State Board of Health personnel assisted by: (1) helping with local organization, (2) providing reading materials and the "Education for Parenthood Guide", (3) loaning a series of films providing in-service education on

the maternity cycle, and (4) training the nurse leaders in the discussion method of education.

The fifth revision of the booklet, "Care of the Premature Infant" was completed in July, 1960. The Maternal and Child Health Section of the Public Health Nursing Manual was completed and will be distributed to each public health nursing office.

Parents on the mailing list for the Mental Health pamphlets "Pierre the Pelican" will continue to receive the pamphlets as long as the current State Board of Health supply lasts. The purchase of a new supply to begin the series for the parents of first-born infants had to be discontinued due to lack of funds.

NEW VISION SCREENING PROGRAM

Planning is underway to initiate a vision screening program for preschool children. This program is aimed primarily at the early detection of amblyopia (lazy-eye). This condition in which the young child does not use one of his eyes will result in the loss of vision in the unused eye if allowed to continue.

By a simple screening procedure, children with this condition can be found and referred for medical examination and treatment instituted if needed. If this is done before the child is four years of age his vision can be saved. The program will be carried out in cooperation with the Montana Oto-Ophthalmologists, local physicians and volunteers. The initiation of the program was recommended by the Advisory Council to the Joint Staff Committee (State Dept. of Public Instruction and State Board of Health).

PUBLIC HEALTH NURSE VISITS

Public health nurses made 1,304 home visits to prenata's and 2,313 to postpartum mothers and their infants during this biennium.

MENTAL RETARDATION

Since 1957, public health nursing visits to families with mentally retarded children have increased as follows:

Year	1957	1958	1959	1960	1961
PHN Visits	141	480	634	685	733

PROGRAM FOR SCHOOL-AGED CHILDREN

The cooperative working relationship in the interest of the health of school-aged children, between the State Department of Public Instruction and the State Board of Health, continues through the Committee organized with representation of staff members from these two departments. The assistance from this Committee's Advisory Council continues to be most helpful.

Public health nurses during the biennium gave services to children from 5 to 17 years of age as follows:

Home Visits	No. of Individuals	Montana 1960 Census
29,195	12,161	177,312

The Maternal and Child Health Section of the Public Health Nursing Manual completed during the biennium outlines the public health nursing services for the school-aged child as well as the growth and development of this age group.

With the increase in the school population, nurses more than ever require a clearly defined program in order to use their time efficiently. A new report form to more accurately record public health nursing services in the interest of Maternal and Child Health services has been prepared.

The Education for Parenthood Program has continued since 1955, as a part of the Home Economics III classes in Montana high schools. During this biennium, such discussion groups were conducted for boys for the first time. This was tried out in answer to the many requests that

have come from parents, school principals and high school students over the last several years. They were conducted at the Tongue River Boarding School at Busby and at the Flathead County High School by the two young men employed as health education consultants on the SBH staff. In the Missoula County High School, the Missoula City-County Health Officer served as the discussion leader. While only 12 junior and senior boys were reached at Busby, 125 senior boys were reached in Kalispell. In Missoula there were 24 boys who were in the Home Economics Class.

It was interesting to note that the questions the boys asked were not unlike those asked by the girls and expectant parents. They were good questions and of a serious nature.

These programs were carried on with the cooperation of the school administrators and teachers and the findings of these pilot programs indicate that the program can be successfully

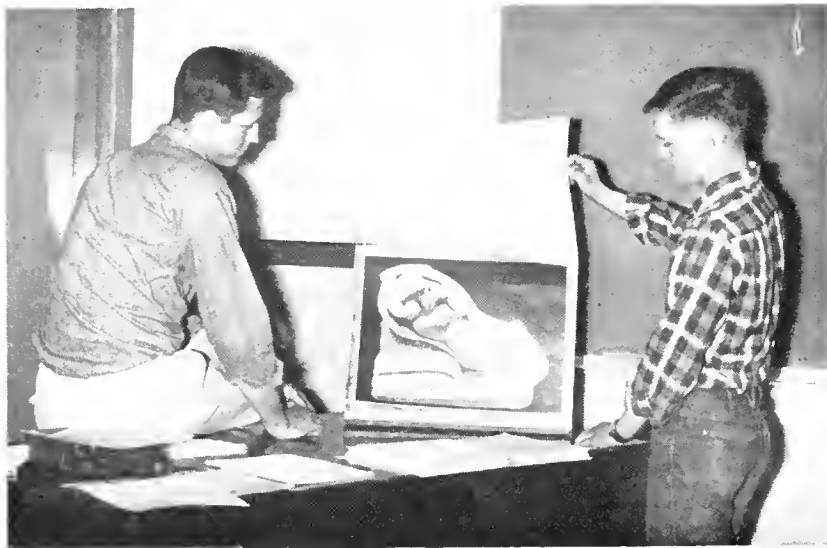
adapted for the high school boys. These programs also indicate a great deal of interest and fill a need in the boys' educational program.

The SBH has two representatives on the State Committee for Family Life Education. In June 1960 this committee sponsored a workshop "Montana Teen-Agers in the 1960's". The committee is now studying marriages in the high school population and the implication for service.

In May 1961, the "Guide for the Montana School Health Program" was completed. With the cooperation of the State Department of Public Instruction emphasis has been placed on implementing its use in the teacher training institutions of the State and in the local schools. In some of the colleges it has been adopted as a text book in health education courses and in others it is used as a reference. The responsibility of motivating the use of this Guide has been carried by the health educators who have reached approximately 250 school administrators, college faculty, local elementary and high school teachers, and local public health workers. There have been 31 local faculty meetings held in which 638 city and county teachers have been reached.

In addition eight class sessions at teacher training units have been held which reached 200 teachers in training. This work will continue during the next biennium.

EDUCATION FOR PARENTHOOD PROGRAM INITIATED FOR H. S. BOYS



Two Senior Boys at Flathead County High School in Kalispell Examine the "Birth Atlas." This is One of the Visual Aids Used in the "Education for Parenthood Program."

—Photo Courtesy Flathead County High School Yearbook.

FAMILY LIFE EDUCATION COMMITTEE

HEALTH EDUCATION IN THE SCHOOLS



More Than 125 Teachers, Principals and Supervisors in the Billings Public School System Attended a Three-session Series of Meetings at Which the Use of the "Guide for the Montana School Health Program" Was Discussed.

PTA STATE HEALTH PROGRAM

Assistance has been given the State Parent-Teacher Association president and health chairman to develop suggestions for health programs of interest to local P-T.A. groups.

A guide and report form was cooperatively developed and the SBH health educators have given assistance to local P-T.A. health chairmen in utilizing this program aid. The suggested programs have been concerned with improving the health of school-aged children and the communities in which they live.

Plans for the revision of this guide are underway and assistance to these associations will continue.

HEARING CONSERVATION

Due to a prolonged vacancy in the position of the Speech and Hearing Consultant only four school programs were provided with direct services in the conservation of hearing. These schools were Whitefish, St. Regis, Alberton and Superior. As yet follow-up results of these testing programs are not complete but many children were found who needed to be referred for medical examinations and many unsuspected cases of hearing losses were uncovered.

Planning for a new approach to assist local communities develop hearing programs is anticipated for the next biennium.

NEEDS

The need for extended Maternal and Child Health services is great. The number of births has been increasing steadily, the school aged population, too, is increasing in numbers. Trends in society such as the increased mobility of families have created new problems. With all the demands brought about by these factors, the number of public health personnel does not materially increase. So the health problems for this segment of the population are not being adequately met in any one community.

CRIPPLED CHILDREN'S SERVICES

THEN . . .

It was in 1916 that interest in Services for Crippled Children began. Louis W. Allard, M.D., Billings, was the prime mover in sparking this interest following a poliomyelitis epidemic in 1916. Dr. Allard at that time was the full time health officer of Yellowstone County.

He enlisted the help of the Montana Federation of Women's Clubs who sponsored a bill in the legislature forming the Montana Orthopedic Commission with an appropriation of \$25,000. The first report of this Commission, covering the period from August 1921 to December 31, 1922 states that "93 cases were treated, 80% of whom were cured; 14% greatly improved, and 5% slightly improved."

With the passage of the Social Security Act in 1936, the services were placed in the State Department of Public Welfare from 1936-1941.

NOW . . .

Since 1911 Crippled Children's Services have continued as one of the major functions of the State Board of Health—and incidentally Dr. Allard is still active in the rehabilitation of Montanans and for many years was one of the physicians working in the Board's Crippled Children's Program.



LOUIS W. ALLARD, M.D.

The number of children receiving services has risen from 93 in 1921-22 to the following numbers on the Crippled Children's case register for the last five years:

Calendar Years	No. Children
1957	4,890
1958	5,028
1959	5,745
1960	5,884
1961	6,044

During the last five years the numbers of new and old cases to whom services have been given are as follows:

Calendar Year	New Cases	Old Cases	Total
1957	573	690	1,263
1958	680	804	1,484
1959	668	767	1,435
1960	561	701	1,262
1961	582	704	1,286

At the spring clinics held in 1962 (one-half the number for the year) 398 children were seen, 163 new cases and 235 of them old.

PURPOSE OF THE C. C. PROGRAM

The purpose of this program is to offer case finding and diagnosis of specified crippling conditions to any child in the State under 21 years of age; and to provide necessary surgical and related care for such conditions to the extent that the child's family is unable to provide this through other resources.

CHANGES IN CRIPPLING CONDITIONS

Until about 1950, the handicapping conditions seen were chiefly orthopedic. Since that time, although orthopedic cases are still seen, the trend has been toward more rheumatic fever, metabolic and neurological conditions, and congenital malformations which are non-orthopedic in nature such as congenital heart disease and cleft palate.

CHANGES IN C. C. SERVICES

Clinics and Physician Office Visits. From 1954 through 1957 the number of new cases given service at crippled children's clinics decreased from 760 to 377 while those seen in physician's offices increased from 90 in 1954 to 279 in 1959.

From 1957 the number of new cases given service at crippled children's clinics increased from 384 in 1959 to 413 in 1961 while the number provided services in the physicians' offices declined to 146 in 1960 and rose to 169 in 1961.

Care Becomes More Complex

The Montana Crippled Children's Program reflects the changing general pattern of medical care. These changes are not limited to financing but are also the result of advances that make it possible to provide care for conditions that were formerly considered hopeless.

Caring for these complex cases not only increases the costs but results in great benefits to the children and their families. Whenever these children can be habilitated to the extent they may become wage earners rather than helpless invalids the community also benefits.

With the change in the complexity of cases that can now be cared for, ancillary services, in addition to physicians' and hospitals, are being brought into the treatment of many cases. Some of the ancillary services are physical, speech and occupational therapy.

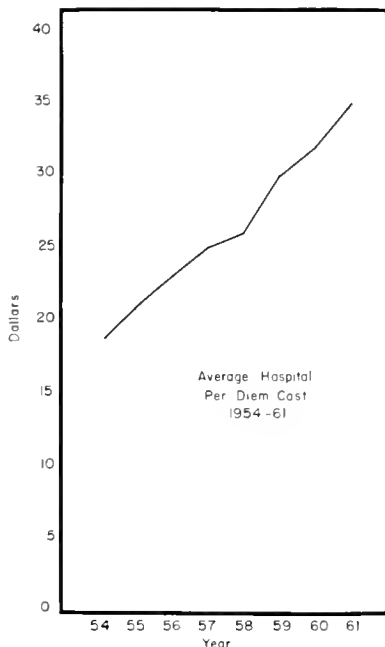
Another factor is that all of these services are increasing in many areas of the State which makes the factor of "coordination of services" of imminent importance in private care as well as in the crippled children's program. Experience has shown that this can best be accomplished through formally organized teams such as the Program as developed at the Center for Cerebral Palsy and Handicapped Children and the Cleft Palate teams.

Special Services

Providing diagnosis and financial assistance when needed does not always solve the problem of securing necessary care for a child. For this reason, the State Board of Health has taken the leadership in developing some needed specialized resources. These include the Heart Diagnostic Center in Great Falls (described in this report on page 29); the Montana Center for Cerebral Palsy and Handicapped Children (described in this report on page 12); and Cleft Palate Clinics (described in this report on page 15).

Congenital heart cases receiving care through Crippled Children's Services July 1, 1960 to July 1, 1962 are:

Cases referred to regional heart programs (Minnesota & California).....	57
Heart catheterization studies, Great Falls Heart Center.....	20
Congenital heart surgery done in Montana (repair patent ductus).....	6
Cases referred to University of Colorado Medical Center, Denver.....	13



Costs

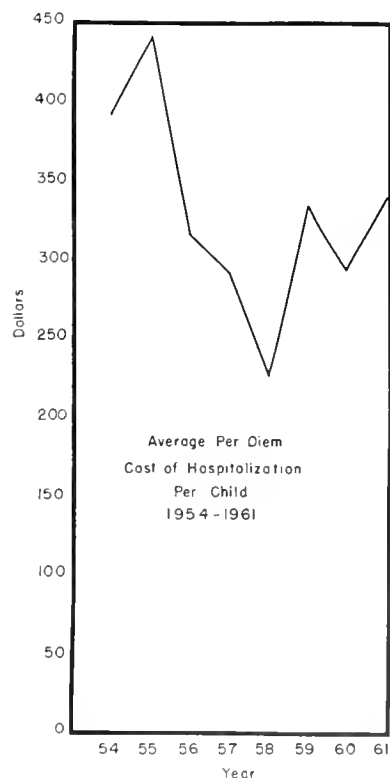
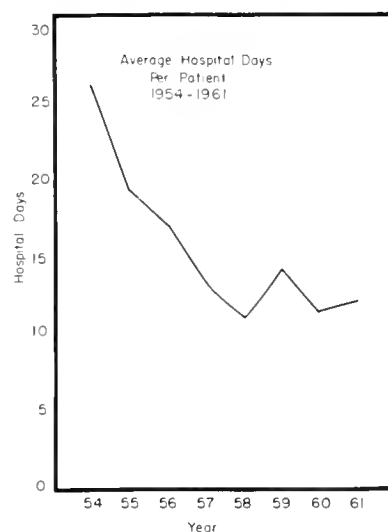
The graph above shows the drastic reduction in the average number of days in the hospital per patient from 1954 when it was 26.6 days to less than half as long or 11.9 days in 1961.

The graph on the left shows the rise in per diem cost of hospitalization from \$19.30 in 1954 to \$35.49 in 1961. In spite of this rise, the average cost per case for hospitalization has decreased from \$393.00 to \$344.84 as is shown in the graph on the right. This reduction has come about through the reduction in the average length of the hospital stay.

Another interesting change is the impact of insurance coverage. In addition to the increase in the number of families covered, there is also a trend for the insurance policies to broaden



Conferring With the Mother, the Board's Public Health Nursing Consultant Reviews Recommendations Made by the Clinic Physician Following Her Child's Diagnostic Examination.



the coverage to include congenital anomalies—a large part of the Crippled Children's load.

When a family has insurance, care is authorized "subject to insurance adjustment" which means that crippled children's payment for care is reduced by the amount of the insurance benefit.

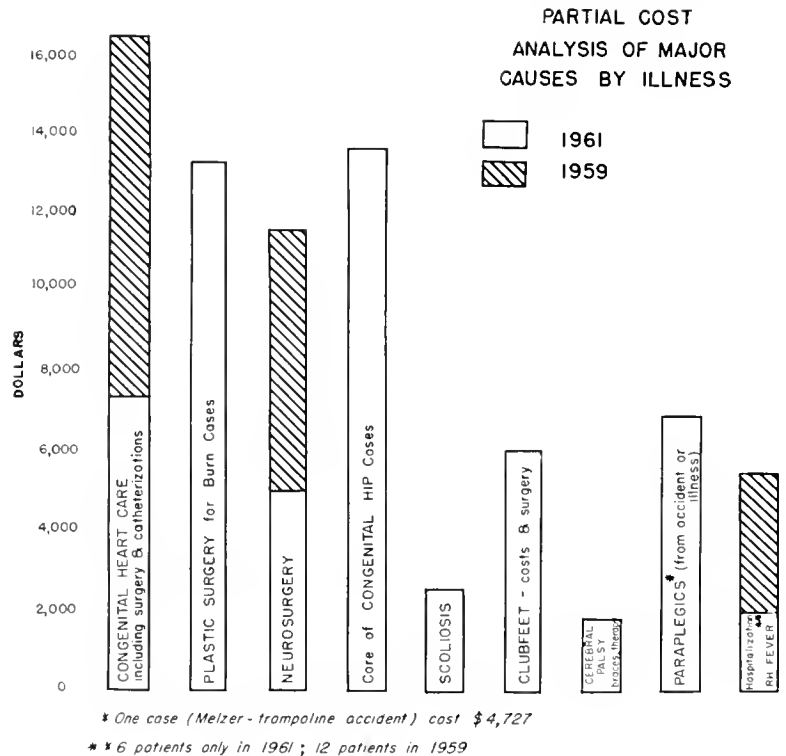
It is estimated that insurance benefits have amounted to \$14,000 in 1959; \$14,385 in 1960 and \$12,232 in 1961. Of these amounts, approximately \$5,000, \$5,000 and \$3,000 have been surgical benefits and the balance hospital benefits. A separate record has been established so that more specific information will be available in the future.

With the increasing number of families able to purchase insurance, it is very probable that, with this help, many families are financing the care themselves. Therefore the State Board of Health has no way of estimating the total amount.

Although this is a helpful trend it does pose some problems for the staff by increasing the difficulty: (1) in determining eligibility for care

and (2) in anticipating in advance the amount that will be covered by insurance. This is due to the vast number of separate insurance contracts. One agency alone has 365 different contracts, each differing in some way from the other. It is expected that this problem will increase since there is a definite trend toward more variety in these contracts.

Another way to reflect changes as they occur from one period of time to another is illustrated in the accompanying graph. This is an analysis of "partial cost by illness". It will be noted that in 1961 the cost of heart surgery and neurosurgery were less than half the cost in 1959; and there were only six patients for whom rheumatic fever hospitalization was provided in 1961 as compared with 12 in 1959, with the cost dropping from \$5,750 to \$1,983. These three illnesses require longer hospitalization than the usual orthopedic case and for no explainable reason there were more of these cases than usual during 1959.



MONTANA CENTER FOR CEREBRAL PALSY AND HANDICAPPED CHILDREN

The following is a breakdown of cases by disorder on file at the Montana Center for Cerebral Palsy and Handicapped Children at the close of the biennium:

Disorder	No. of Children
Cerebral Palsy	121
Other orthopedic problems including spina bifida, muscular dystrophy, amyotonia congenita, etc.	23
Miscellaneous, including retarded, epileptics, post-encephalitis, etc.	39
Hearing problems	25
Cleft lip and palate	88
Other speech and or language handicaps	174
TOTAL	470



Speech & Hearing Therapist Aids Child with Hearing Loss.

SERVICES PROVIDED

The Center initiated in 1947 and sponsored by the State Board of Health, Eastern Montana College of Education and the Billings School District continues to provide services for children with multi-handicapping conditions. These services are maintained by a team of specialists who provide medical services, speech and hearing therapy, physical therapy, occupational therapy, psychological evaluation and a limited amount of psychotherapy. In addition a special education program is maintained requiring a combined therapy and educational program.

The following is a breakdown of the kinds of services provided, with the numbers of children receiving these services during the 1960-62 biennium. Also shown is a cumulative figure of these services since the Center was established:

	1960-1962	Since 1947
Diagnosis and evaluation clinics.	47	289
Children seen for initial evaluation at medical evaluation clinics.....	89	515
Children seen for re-evaluation . .	242	1470
Children attending full time school	76	208*
Children released for other placement, school, institutions, etc.	19	119
Children receiving psychological testing	500	
Individual children at medical clinics and/or for speech and hearing problems	768	

*School program started in the spring of 1948.



Physical Therapy is One of the Many Services Provided This Five-year Old Who Enjoys Work on Parallel Bars.

On an average, each child seen once at the Center receives 5.5 separate services and during the biennium, the 768 children seen received 4,224 separate services, which does not include therapy sessions, psychological counselling or special education teaching services.

SERVICES STRENGTHENED

In addition to improving the techniques of care and the "team" function, a limited psychotherapy program was initiated during the biennium. The children referred for this purpose are those with an emotional disturbance in addition to other handicapping conditions.

The consultant psychiatrist visits the Center once a week and provides consultation to the psychologist and the coordinator and advises the other members of the staff in methods for meeting the children's behavioral problems as they arise.

The College acquired a portable steel sound-proof room for hearing testing which has greatly improved these testing facilities. This addition makes it among the most complete



Child Takes a "Block Test" Administered by Psychologist at Center. All Children are Given Psychological Tests as a Part of Total Evaluation and Re-evaluations.

facilities in the State in so far as equipment for this purpose is concerned.

The Center has broadened its function as a laboratory for special education students studying at the College. This has been brought about with the initiation of a swimming program whereby the physical education students, on a volunteer basis, gain experience in working with handicapped children. The contribution of the students has also been most helpful to the staff at the Center. The observation program for nurses in training at the Billings hospitals and the Montana State College field service program in public health, as well as for education students, have been improved during the biennium.

In January 1962, the Center initiated charges for the evaluation and therapy of children with speech and hearing problems only, who are referred to the speech department. No child is refused service because of inability to pay but parents are encouraged to pay. Since this plan was initiated attendance for therapy and the following through of recommendations has improved.

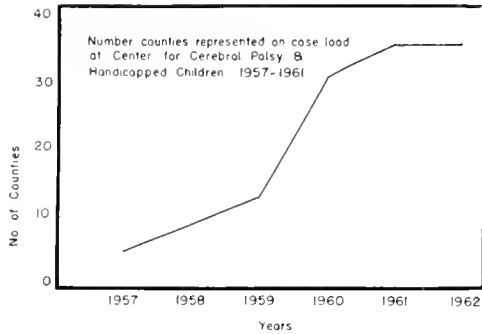
The Parent's Organization at the Center has provided increased assistance to the Center. The members have assumed the responsibility of maintaining tricycles and bicycles. This equipment has a dual function in providing therapy and recreational exercise. Further assistance has been given by this group in sponsoring an attendant for three hours each day to help with the children. Individual members of the Billings Junior Service League, the Breakfast Opti-Mrs. and the Billings Garden Club have provided volunteer help. This helps free the staff members to concentrate on their professional duties.

In 1961, the Lions Club took over the sponsorship of a Camp at Red Lodge for children in the Center's program. This camp is held following the end of the summer session.

The Parent's Organization, other clubs, and individual citizens have contributed funds to buy sorely needed therapy and educational equipment and materials. Particular mention should be made of the generous help provided by the Women's Motor Transport Auxiliary during the first four years.

NEEDS

Because of the high cost of providing care for such a Center and the small population of Montana, it is feasible to have just the one State facility. However, this demands competent staff to provide service for children with a very wide variety of disorders. At present there are certain deficiencies in the staff complement; there is need for a medical-social worker and a clinical audiologist. Increased secretarial and attendant assistance is also needed. The space which houses the Center continues to be inadequate—and the space now available may one day be required by the College who are also short of space. Furthermore, since the basement space was not designed for this facility, certain real hazards and very practical problems exist in getting children in and out of the basement and providing adequate recreation, educational and therapy space. There is a need for a facility on the ground level designed to accommodate the services provided as well as providing facilities for adequate student observation and student teaching.



VOLUNTEER ASSISTANCE INCREASES

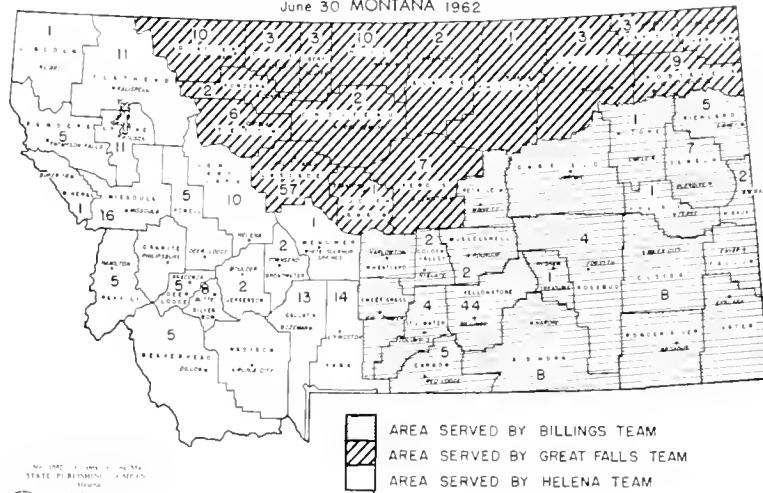


Elementary School Children Plant Trees with Assistance of Members of Billings Garden Club—One of Many Volunteer Groups Contributing to Center for Cerebral Palsy and Handicapped Children.

THE CLEFT LIP-CLEFT PALATE PROGRAM

Currently Active Cases in Cleft Lip - Cleft Palate Program

June 30 MONTANA 1962



MONTANA CHILDREN WITH CLEFT LIPS AND PALATES

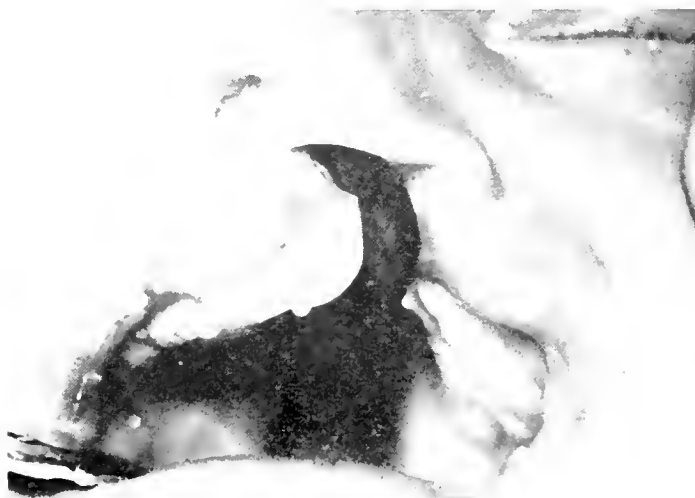
At the close of the biennium there were 318 active cases registered in the Montana Cleft Lip-Cleft Palate Program. The three teams, with approximately equal case loads, continue to provide services for children from all parts of the State. The teams are located in Billings, Great Falls and Helena.

The counties from which these currently active cases come are shown on the accompanying map.

Clefts of the lip and or palate are the result of a lack in the development in certain structures. This abnormality occurs early in the unborn baby's developmental history. As shown in the picture below, there is a "cleft" or opening in the palate (or roof of the mouth) and often in the lip. It may occur on one side of the mouth or on both sides. It may be a partial opening or a complete opening through the roof of the baby's mouth, his gum and his lip.

The largest number of children with clefts have both cleft lips and palates. More girls seem to have cleft palates only; more boys to have cleft lips only. More boys have the combination of cleft lips and palates than do girls.

The immediate problem the child and his parents face is the child's inability to suck and eat. His appearance, until the repair is completed, is a shock to those around him and his speech cannot develop properly until he has received help.



Before



After

MONTANA INCIDENCE HIGH

Montana has a high incidence of cleft lip and palate. One baby out of every 540 has a cleft condition. The national statistics range from one baby in about 700 to one in 1,000.

A study now underway by the State Board of Health shows that the incidence among Indian babies in the State is one in every 276 births, which is about twice the non-Indian rate and extremely high when compared with national figures.

In the last seven years, 226 babies have been born in Montana with this disorder with 73% of them registered in the State program.

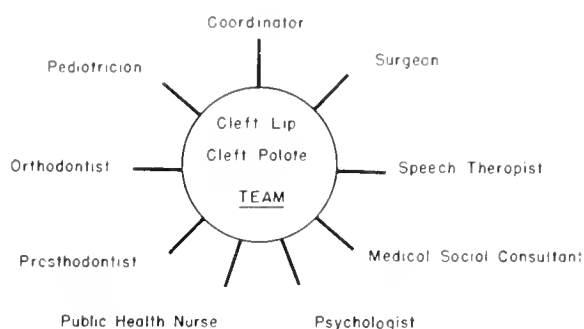
OTHER DEVIATIONS

Of the current case load, studies at this time show 17% of the children have some other anomaly or deviation. Of these children, 11% of them have reported anomalies in other members of the family. The largest percentage of the children come from families who are in the lower socio-income bracket. This trend in Montana is the same as it is elsewhere.

SERVICES GIVEN

With the emergence of the "concept of team care" in providing Cleft Lip-Cleft Palate services for persons with complex disorders, Montana's three teams were formed in 1956. These teams have received national recognition for the development of their team approach and for the quality of the care provided.

The composition of a typical team consists of the specialists shown in the chart.



About 500 cases have been under care since the beginning of the program with about 320 active cases at all times. Approximately 57% of these are boys and 43% girls.

The three teams meet monthly and see four or five children at each clinic. A summary of the number of clinic visits for each year is as follows:

CLEFT LIP-CLEFT PALATE CLINICS
1956-1961

Year	No. of Visits	1st Visit	Return Visits
1956	85	52	33
1957	126	79	47
1958	123	46	77
1959	122	37	85
1960	121	39	82
1961	119	41	78

Extent and Types of Services Rendered in the Program
By Number of Children and Year from 1956 to 1961:

Year	No. Cases Team Evaluation	No. Lip Surgery	No. Palate Surgery	No. Rec. Orthodontia	No. Rec. Prosthodontia
1956	85	35	9	10	18
1957	126	40	8	13	18
1958	134	40	10	31	26
1959	131	31	13	49	21
1960	121	21	32	20	9
1961	119	15	11	26	7

Team evaluations began in 1955 with 41 cases evaluated.

SPEECH SERVICES

July 1, 1961 to June 30, 1962

Source	No. of Children	No. of 1/2 Hour Lessons
Montana Center for Cerebral Palsy and Handicapped Children	44	528
Great Falls Rehabilitation Center	26	479
Elks Mobile Therapists	47	242
Montana State University	4	93
Private Therapists	6	87

RECENT CHANGES IN THE PROGRAM

Although there are no basic changes in the procedures, the techniques are constantly being improved. The number of procedures now being done is less than formerly and the procedures are becoming more and more effective. Orthodontia and other procedures are being done earlier in the child's life which makes rehabilitation more effective. Speech therapy is started sooner also and there do not seem to be as many children with hearing losses as there once were; this is due to constant attention which the Teams give to ear infections.

Accumulating and organizing the data which is being collected continuously has recently been stepped up, and an evaluation of all phases of the program is underway.

CLEFT FACTORS: INDIAN & NON-INDIAN

A study has been done on the cleft factor among Indian babies as compared with non-Indian and some interesting data has emerged. As far as is known this study has never been done before among American Indians.

This study shows that for the years 1955 to 1961 inclusive there were 27 Indian babies born with this abnormality out of a total number of 7,461 babies. Of these 27 children, 15 are now living on one of the Indian Reservations; four have been adopted or are living in foster homes off the reservation; two live in towns off the reservation; one has moved out of the State; two are in an institution for the mentally retarded. Three of them died between 4 days and 6 months of age.

In this Indian group there were 18 males, or 67%, and nine females or 33%; while in the non-Indian group the percentages are 57% males and 43% females.

In comparing the incidence of other congenital anomalies in addition to a cleft, the Indian rate is 19% while the non-Indian rate is 14%.

The study also shows a difference in the age of the Indian mother as compared with the non-Indian mother when they gave birth to their children with clefts. By the time the non-Indian mothers had reached 25 years of age, 46% of these children had been born while Indian mothers had given birth to only 29% of these children. At 30 years of age, the percentages are 75% for the non-Indian as compared with 62% for the Indian mothers.

The position of the child in the family also varies between the Indian and non-Indians. The data indicates that 85% of the Indian babies were third, fourth, fifth or later in position in their families; while 81% of the non-Indian babies were first, second or third.

The study suggests there are many facets of these cultural differences to be investigated further. There is an indication that there may be some factor other than heredity that plays a dominant role. This is suspected since many Indian children with abnormalities in the past have not lived long enough to become parents. The investigator is now trying to ascertain the number of adult Indians in Montana who have clefts. It is expected that very few third generation adults will be found with this condition and only a few more second generation adults.

PROGRAM NEEDS

The continuation of the Cleft Lip-Cleft Palate program is essential if the children now under care are to be carried through to the completion of their rehabilitation. Services for these children, unlike those with many other abnormalities, extend over a period of many years. This is due to the fact that care must extend over the child's development from infancy until his growth is completed.

Furthermore there are between 25 and 31 children born every year who have clefts. To provide them with the care needed, the continuation of the program is urgent.

The studies now under way and the evaluations which have started need to be continued. This is all a part of the national effort to determine the causes of this defect in the hope that someday its occurrence can be prevented.

The program since 1956 has been supported by a Children's Bureau grant which will end on June 30, 1963. If the program is to be continued it must be supported with State funds.

DENTAL HEALTH

THEN . . .

Taking health services to people began in the "horse and buggy" days.

Pictured here is Dr. O. A. Kenck, Augusta, at his dental chair before the turn of the century in his horse drawn trailer. This "mobile" or as he called it "dental car" was used to reach outlying communities from Helena.

Probably the first dental surveys in Montana were carried on by Theodore Rider, D.D.S., still engaged in the private practice of dentistry in Missoula. He says that in 1908 he carried on a dental survey in Helena to find the dental problems of school children. In 1909 and 1910 he surveyed the children in Missoula. These surveys show that the dentists were engaged largely in emergency dental service.

NOW . . .

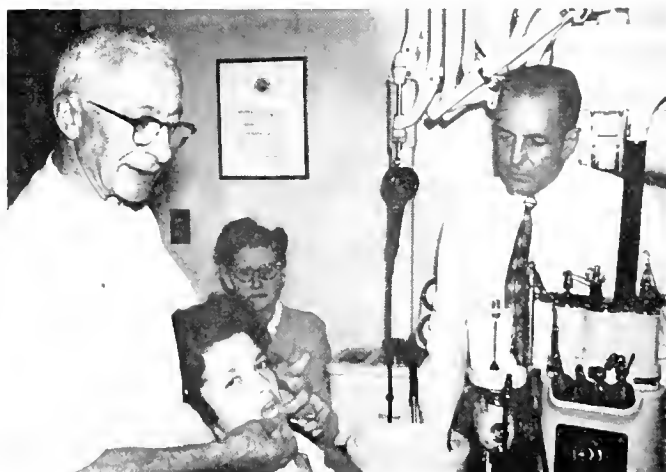
Fortunately prevention and early attention to dental disease has replaced much of the early day emergency service.

CONTROLLED FLUORIDATION OF PUBLIC WATER SUPPLIES

There are four communities in Montana which are adding fluorides to the public water supply to partially control dental decay. These communities in order of size are Bozeman, Miles City, Roundup and Laurel. Several other communities have approved the fluoride additive program and are in the process of instituting this outstanding dental health measure. In addition, several Montana communities have the optimum amount of fluorides occurring naturally—1 part per million—in the water supply and others have almost the optimum amount.

In May 1962 a ten-year post fluoridation survey was completed at Roundup, Montana. Roundup was the first community in Montana to bring its water supply up to the required amount of fluoride for the partial reduction of dental decay. E. G. Vedova, D.D.S., assisted by the SBH dental director carried out the 10-year survey. The effectiveness of the fluoride program can best be analyzed at the end of a ten-year period (the optimum time for the forming permanent teeth to become decay resistant).

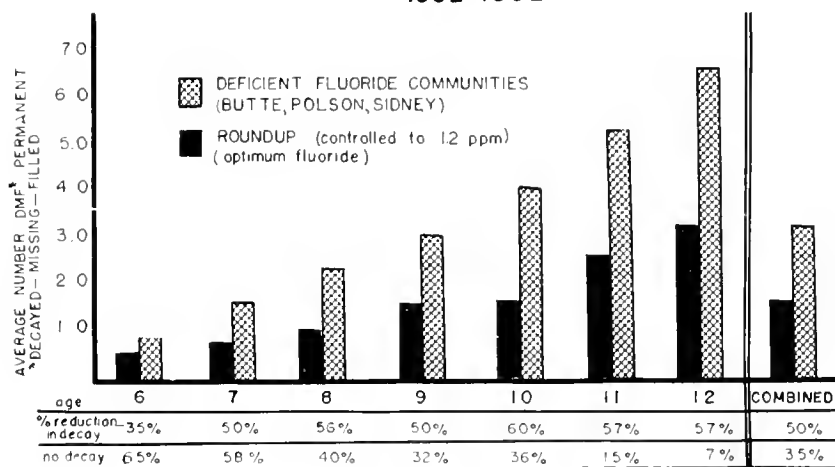
E. G. Vedova, D.D.S., Practicing Dentist in Roundup and John R. Snyder, D.D.S., M.P.H., Dental Director of the SBH, Carried Out the Roundup Survey with the Assistance of Volunteers.



DENTAL HEALTH BENEFITS AT ROUNDUP, MONTANA

AFTER 10 YEARS OF FLUORIDATION

1952-1962



The D.M.F. index was used to measure dental decay experience and levels of dental care. This aggregate score shows the total number of teeth that have experienced dental decay. The "D" indicates the number of decayed teeth, "M" the number of missing teeth due to caries, and "F" the number of teeth satisfactorily filled.

The Roundup 10-year survey exhibits excellent results as shown in the accompanying graph.

Youngsters who have had the benefit for ten years have a 60% reduction in decay of their permanent teeth, and 36% are free of dental decay. Sixty-five percent of the six-year olds are free of dental decay. The decay reduction for all children six through twelve years of age averaged 50%, with 35% having no decay in permanent teeth.

These dental health benefits were in comparison with three Montana communities deficient in water fluorides, namely Butte, Polson, and Sidney.

Other dental health surveys were conducted during the biennium at Hardin, Glendive, the Villa Ursula School at St. Ignatius, Lima, and ten of the rural schools in Ravalli County which included preschool children also.

Another interesting survey was conducted at Birney on the Cheyenne Indian Reservation in Rosebud County. Here the water supply contains an excessive amount of fluorides.

In December 1960, a dental survey was conducted on all freshmen students at Montana State College. The purpose of this survey was to determine the dental caries experience rates and the level of dental care. It was also to be used to determine the advisability of establishing a dental service in the College Health Program.

The D.M.F. index was the measure used in this survey also and the chart below shows the findings.

RATES OF DECAYED, MISSING AND FILLED TEETH
and the Percentage Needing Dental Treatment Among 861
Montana State College Freshmen Girls and Boys, in the Fall of 1960

	DMF	D	M	F	% Needing Dental Treatment (almost all, only minor types)
Girls	12.4	1.1	0.9	10.4	46%
Boys	11.1	1.5	1.1	8.5	54%

INDIVIDUAL FLUORIDE ADDITIVES

Considerable interest has been shown recently in the use of additive fluorides to the diets of children during the first ten years of life on a prescription basis. This interest comes from communities or rural areas where the water supply lacks fluorides.

Information has been supplied by the SBH to aid dentists and physicians in prescribing these additives. The chemistry laboratory staff of the SBH analyzes water supplies to determine the fluoride content for the practitioners when such information is not already available to them. This makes it possible for them to prescribe the proper dosages.

TOPICAL APPLICATION OF FLUORIDES

Another method recommended for the prevention of dental decay is the topical application of fluorides to the teeth. Dentists have been encouraged to utilize this procedure as the child's teeth erupt.

A plan has been completed for a community sponsored topical application program by the County Health Council in Ravalli County. This plan was developed cooperatively with the SBH dental director, the local practicing dentists, school authorities and the Health Council.

It is planned to clean and treat the teeth of 700 school children from grades one through six. A nominal fee will be charged to defray the cost of this program.

MOUTH PROTECTORS

Numerous studies throughout the nation have shown that injuries to teeth and the face can be reduced by more than 90% if the participants in contact sports wear tooth and mouth protectors. Demonstration studies were completed during this biennium by the dentists in Bozeman and Great Falls.

The 1962 National Alliance football rules require that each player engaged in contact sports wear these protectors. In conformity with this regulation, the Montana State High School Association, the Montana State Dental Association and the SBH have made arrangements so that all participants in high school contact sports will be supplied and fitted with such devices beginning in the 1962-63 school year.

The Montana program will be carried out at the local level by the cooperation of local school officials, coaching staffs, and the practicing dentists. At the end of the 1962-63 school year the Dental Division of the SBH and the State Dental Association will analyze the success of this program.

RADIATION CONTROL

By the end of this report period, 295 dental x-ray units in dental offices had been monitored to determine their safety. If excess radiation was evident, recommendations were made for its reduction.

In order to further implement this safety procedure, the SBH with assistance from the Public Health Service will furnish monitoring packets to all dentists with x-ray equipment. This packet is called a "Surpak". It rapidly and effectively records the defects, if any, that an x-ray machine may have. It is anticipated that this part of the program will be completed by the end of 1962.

DENTAL REFERRAL CARDS

During the biennium, an evaluation was made on the effectiveness of the dental referral card system. The dental cards, distributed through the schools, are designed to motivate annual visits to the dentist.

In the evaluation it was found the people concerned in some counties want to continue its use and others do not. The plan, therefore, is to continue the program on a selective basis. This program, initiated more than 12 years ago on a state-wide basis, is one of the areas of dental health that warrants increased emphasis and evaluation.

BITE-WING X-RAY PROGRAM

Bite-wing X-ray programs are also conducted to stimulate child visits to the dentist and to inform the parents and children of the value of dental x-rays as an aid to diagnosis and treatment. Such programs serve best as demonstration programs. Bite-wing X-ray programs were conducted at Sand Coulee and Belt in Cascade County and at Malta during the biennium.

PROFESSIONAL EDUCATION

At the 1962 meeting of the Montana State Dental Association, a clinic on mouth guards was presented by the SBH and educational exhibits on dental health were displayed.

Plans were completed for the presentation of a course on the effective utilization of auxiliary personnel for the dentists and their assistants of the State. This will take place early in the next biennium.

DENTAL HEALTH EDUCATION

Dental health education is an integral part of each of the programs described above. With the participation of health educators, public health nurses and school faculty members, in addition to members of the dental profession, there has been an extensive educational program throughout the biennium.

Through faculty meetings on dental health, through the distribution of literature and loaning of films, the SBH has assisted in the school dental health education program. A section on dental health in the "Guide for the Montana School Health Program" is serving as valuable resource material.

Public meetings for civic groups, health councils and Parent-Teacher Associations have been held at Dillon, Twin Bridges, Hamilton and Roundup. The Division of Public Health Nursing in 1962 cooperated with the Divisions of Dental Health and Health Education in assisting the Dental Health Week Chairman of the Montana State Dental Association with educational promotion activities in dental health.

Seminars for teachers in training at Montana State University, Montana State College, Northern, Eastern and Western Montana Colleges of Education have been held.

**Elementary School Children
Study Mechanism of Dental De-
cay.**



LACTOBACILLUS PROGRAM

The microbiological laboratory ran 340 lactobacillus examinations for 31 practicing dentists during the biennium. This is an aid in determining individual patient susceptibility to dental decay. It is also used to measure the success of a dietary program for the control of dental decay.

Plans are being formulated for studies concerned with dental problems in the areas of cleft palate, oral cancer, chronic illness and aging.

DISEASE CONTROL

THEN . . .

"On October 1, 1901, there were 448 cases of smallpox, 37 cases of scarlet fever and 64 cases of diphtheria reported for a six month period. Since Rocky Mountain Fever first appeared probably 200 cases had occurred, 70-80% of them fatal. In the spring of 1902, 18 cases developed, 15 of them died."

NOW . . .

On July 1, 1962, there had been no cases of smallpox reported in the State for nine and a half years; for the six month period, ending on this date, six cases of diphtheria have been reported—all in one family; 1,530 cases of streptococcal infection were reported and six cases of Rocky Mountain Spotted Fever were reported but no fatalities.

ACUTE COMMUNICABLE DISEASES

Acute communicable disease control remains an important program in the State Board of Health. During the last biennium basic public health principles were put in effect to control **typhoid fever**. There were 36 cases reported. The majority of these occurred on the Crow and Cheyenne Indian reservations, with another outbreak at the State Hospital in Warm Springs. Mass immunizations were done in both places in cooperation with the Indian Health Service of the U.S.P.H.S., the U. S. Communicable Disease Center, and the staff at Warm Springs. Isolation procedures were used. Typhoid carriers were identified with the help of the State Board of Health Microbiological Laboratory. These were then treated. Sanitation was reviewed and recommendations made for its improvement. Public health nurses in many areas of the State were involved in epidemiological procedures. Health educators worked to motivate people to take advantage of immunizations not only during the initial outbreak but also during the second immunization clinic for typhoid which was done in the spring of 1962 to provide booster doses for the Indians and to immunize as many more of the population as possible.

Again, **Dysentery** (especially shigella) and **Salmonella Infections**, although seldom reported as cases, are other indicators of poor community sanitation and personal hygiene. According to laboratory reports these cases are increasing in number.

There were 18 cases of **paralytic poliomyelitis** during the biennium although only one has occurred in the first six months of 1962. It was quite apparent from the age distribution of cases that preschool children and adults over 21 are still poorly vaccinated. Salk vaccine has been proven to give 90% protection over paralytic polio.

Sabin oral polio vaccine has not been used in Montana during the biennium. The three types of oral vaccine were not licensed until late in the spring of 1962.

The SBH is not recommending its use, except in epidemic situations, until late fall and winter. Other intestinal infections prevalent in the State at other times of the year may reduce the production of immunity.

The number of reported cases of **infectious hepatitis** dropped only slightly during this biennium from the previous one. There were 630 cases reported. Special epidemiological studies were done in several areas of the State with the help of the Rocky Mountain Laboratory personnel of the U.S.P.H.S. Infectious hepatitis virus probably is carried in the stools of a patient for some time after his recovery. Education of school children in proper hand washing has helped reduce the cases in this age group. Most of the gamma globulin allocated to the State Board of Health has been used for protection of family contacts to infectious hepatitis.

Ten cases of **diphtheria** were reported in the biennium—six of these were in one family. No member of this family had previous immunizations for the disease. Although this family was isolated after diagnosis, a survey of the school immunization index indicated that the school children were not well protected. Immunization clinics in the schools of the county followed and the index was brought up, not only in diphtheria, but in tetanus, polio and smallpox.

1961 is the ninth consecutive year that Montana has had no **smallpox** cases. To continue this record, Montanans must renew their smallpox protection every five years throughout life.

During the biennium **influenza** remained high in the State. There were 9,857 cases reported. During the previous biennium, Asian Influenza was rampant in Montana. During the past biennium, Influenza B was the most frequent cause of epidemics. Representative infections in many communities were proven serologically in the State Board of Health virus laboratory. Immunizations for influenza have been and will be recommended by the State Board of Health especially in susceptible age groups.

Only 3,173 cases of **measles** have been reported in this biennium. The reporting of only 267 cases of **whooping cough** can only be the result of better immunization of preschool children in the State. Eight cases of **Meningococcal meningitis** were reported. However, physicians were urged to report other **meningitis** during this biennium as a separate entity. Although only 25 cases were reported, an epidemic of aseptic meningitis occurred during the summer of 1961 in the Billings area. This was proven to be due to Coxsackie Group B, type 5 virus by the SBH virus laboratory. It was estimated there were about 5,000 cases. Cases similar to these undoubtedly occurred throughout the State but were unreported.

There were four cases of arthropod borne Western equine **encephalitis** and four cases of other **virus encephalitis** reported during the past two years.

Four cases of **brucellosis**; eight cases of **tularemia**; and nine cases of **Rocky Mountain Spotted Fever**, six of which have occurred in the spring of 1962, have been reported.

The reporting of streptococcal infections ("strep" throat and scarlet fever) and related rheumatic fever has risen sharply in recent years. This shows an increased awareness of the epidemic potential of certain streptococci and has enabled more accurate epidemiologic surveillance. During the biennium, 5,578 cases of streptococcal disease and 382 cases of rheumatic fever were reported. (The relationship of these two entities is discussed in the heart disease control section.)

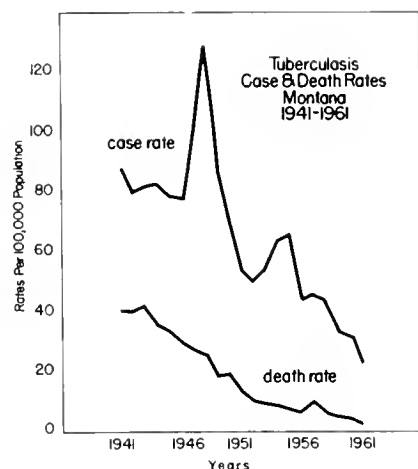
Tuberculosis, although still the principal killer in the infectious disease field, shows the fewest number of deaths and the lowest death rate in any year since the reporting of this disease was started in 1910. The number of deaths dropped from 31 to 24 and the death rate per 100,000 population dropped from 4.6 in 1960 to 3.5 in 1961, a 26% reduction. The all time high was a rate of 113.2 in 1915. The death rate has decreased from 40.4 in the last 20 years as the accompanying graph shows.

The tuberculosis case rate for 1961, which includes reported active and probably active cases, has dropped from 32.8 in 1960 to 23.8 per 100,000 population in 1961.

Upon review this remarkable drop in the death and case rates for the year 1961 appears to be due to several factors:

- (1) A referral system has been effectively developed and carried out cooperatively between the State Board of Health and the State Tuberculosis Sanitarium.
- (2) A closer followup has been maintained on the patients returning from the Sanitarium by practicing physicians, health officers and public health nurses.
- (3) Long term anti-tuberculosis therapy administered to all tuberculin positive silicotics has prevented the development of active tuberculosis.
- (4) Improvements have been made in the surgical removal of diseased areas in the tuberculosis patients.
- (5) Case-finding, particularly in skin testing programs, has been increased in the high risk and older age groups during the past two years.
- (6) The 1959 law makes it possible to hospitalize patients who are a menace to the public health.
- (7) Prolonged drug therapy has been responsible for a lower re-infection rate, that is, the long-term drug therapy assists in

TUBERCULOSIS



helping the patient resist another breakdown after the disease has once been arrested.

- (8) Montana's state institutions have made large strides in improving their tuberculosis control programs in the last two years. Active tuberculosis patients from these institutions are now cared for at Galen.

The high incidence areas in tuberculosis remain the same. These areas are those with high Indian populations and where extensive mining is carried on.

Although Montana's rates are dropping, the State still has a long way to go in eradicating tuberculosis—only deaths from all the pneumonias and influenza are greater than tuberculosis among the infectious diseases. Along with the strides that have been made, other problems are arising such as the resistance to anti-tuberculosis drugs, and no new effective drugs have been found to replace them.

This is evidenced by the fact that in the six months from January to July, 1962, 94 active or probably active cases have been reported with seven deaths.

Without the local public health nurse, the control of tuberculosis would be most difficult. During 1960, public health nurses made 798 visits to diagnosed tuberculosis cases and 1,395 visits to contacts and suspects. In 1961, 959 visits were made to diagnosed cases and 1,798 visits were made to contacts and suspects.

VENEREAL DISEASE

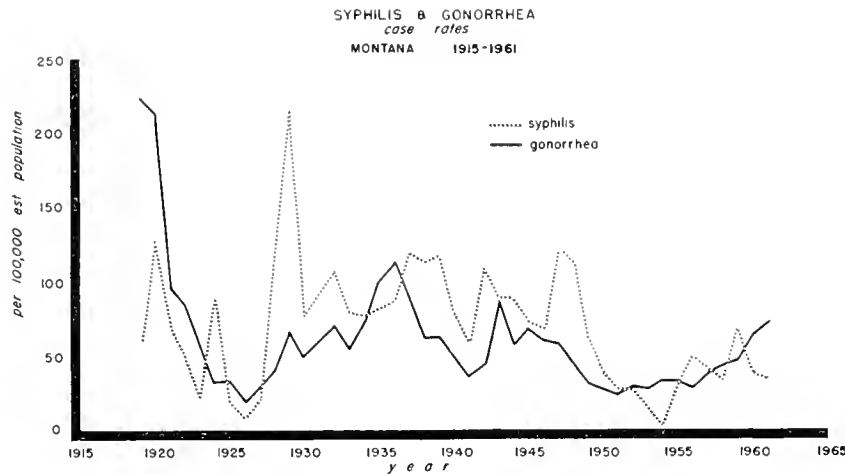
Special educational and case-finding emphasis in venereal disease during the biennium has been on teenagers and young adults in the State's population. Of the more than 800 cases of gonorrhea reported during this period of time, one in every four occurred in a person under twenty years of age. There were 453 reported cases of syphilis. Although there was no apparent rise in infectious syphilis in the younger age group in Montana, there has been an attempt to establish a good basis for control. Through this effort it is hoped that the increased incidence of early syphilis that has been occurring in other states since 1959 will not take place here.

To control syphilis and gonorrhea each case must be promptly discovered and treated and all those persons exposed should be immediately placed under the care of a physician to insure that treatment is readily available if so indicated.

The private physician in Montana holds the key to the successful control and the ultimate eradication of syphilis. The physicians, assisted by local public health nurses, and the State Board of Health staff have carried on a vigorous control program during the biennium.

During the past two years, over 450 personal visits were made by the State Board of Health field staff to discuss the mechanics of and necessity for reporting, assist in tracing known contacts and other suspects and to call to the physician's attention new information in venereal diseases.

The combination of prompt reporting of cases by physicians and other reporting sources, and rapid epidemiologic follow-up by public health agencies has resulted in the following:



ROLE OF PRIVATE PHYSICIAN

VD EPIDEMIOLOGY

(1)

**PUBLIC HEALTH NURSING VISITS REPORTED BY NUMBER, KIND OF VISIT, AND NUMBER OF ADMISSIONS
1956-1961**

Year	Total Visits	Home Visits	Office Visits	Admissions
1956	78	50	28	46
1957	89	54	35	50
1958	281	164	117	176
1959	362	116	246	195
1960	599	295	304	315
1961	510	221	189	284

(2) More than two hundred infectious venereal disease patients have been interviewed or reinterviewed by the combined efforts of the physician, State Board of Health staff and local control personnel with an average of more than one contact named per each interview.

(3) Of the more than 1,045 persons who were examined there were 23 cases of early syphilis, 42 other syphilitics and 120 other venereal disease cases placed under medical care. These 185 cases were all previously unknown. There were 22 other patients returned for retreatment or for completion of interrupted therapy.

**SEARCH FOR CASES AND
CONTACTS EXTENSIVE**

Since every case of VD comes from another case, health responsibility does not cease when a case of VD or a contact leaves a community.

During the last biennium, the State Board of Health staff was responsible for the initiation of transmission of information to appropriate investigative agencies and other processing communications for 1,800 persons. One in every 18 referrals required interstate or international communications. Referrals to and from Montana necessitated cooperative efforts with public health agencies in 28 states and five foreign countries.

PROFESSIONAL EDUCATION

The State Board of Health carries on a continuous program to assist those professional persons working in VD control to keep abreast of the rapid pace of new information. Today's syphilitic completes treatment in a week's time which required 12 to 18 months two decades ago.

The new information made available includes the latest laboratory tests, new and improved therapeutic agents and more productive epidemiologic techniques. It has been disseminated through printed materials, a quarterly VD Newsletter published by the State Board of Health, and through lectures. Evan W. Thomas, M.D., world renowned syphilologist, was brought to Montana through State Board of Health arrangements. He spoke to professional persons in Great Falls, Billings, Missoula,

Helena and the Anaconda-Deer Lodge area. Dr. Thomas at one time served as a syphilis consultant to the World Health Organization—WHO.

CHRONIC DISEASE

According to the 1960 census, 9.4% of persons in Montana are over 65 years of age. 48.7% of these persons live in towns of 2,500 population or less; 10.7% in towns of 2,500-10,000 population, and only 11.3% live in cities of 10,000-50,000 population.

This distribution of Montana's older population presents challenging problems of caring for the chronically ill and aging.

Personnel Giving Nursing Care Practice Bed Positioning at Rehabilitation Nursing Conference Held in Kalispell in January, 1962.



In December, 1960, a Montana Conference on Nursing Home Problems was held. It was sponsored by the State Board of Health and endorsed by the Montana Nursing Home Association. Representatives from the Montana Medical Association, Montana Hospital Association, Montana Nursing Home Association, State Department of Public Welfare, State Hospital, and Montana Nursing Association comprised the planning committee.

The State Board of Health through its Division of Disease Control presented its plan to improve patient care in nursing homes. It was agreed that this presented a definite need. In January, 1961, a consultant nurse was added to the State Board of Health staff to further this program.

Her survey of patient care needs in 26 nursing homes in Western Montana showed that all nursing home operators expressed a desire for help in rehabilitation, nutrition, occupational therapy, the use of volunteer services, and in community and professional understanding.

A workshop involving the personnel from nursing homes and personal care homes was sponsored in Kalispell. This was a pilot program. Emphasis was placed on the rehabilitation of nursing home patients. An evaluation of this showed that it met a need in the community and stimulated much interest in better patient care in nursing homes.

Improved teaching aids and procedures were developed as a result of this workshop and were used in other areas of the State. This program will continue.

An effort was made to bring about a better understanding between public health nurses in the community and nursing home operators.

Out-of-hospital nursing care for the chronically ill has long been recognized as a need in Montana. Public health nurses have given this type of service only on a very limited basis because of the stress of other programs, and then, primarily as a teaching experience for someone in the home to care for the patient.

When funds became available in January, 1962 for this program, a plan was made to begin out-of-hospital services in Missoula, Ravalli, and Mineral counties.

Citizens' committees were formed in these counties to discuss the program and to disseminate information to the public. Missoula County formed a professional committee to act in an advisory capacity to the health officer. One of the State Board of Health educators has been assisting in the educational aspect of this program.

Public health nurses were added to the existing staff in these counties. Out-of-hospital nursing service was offered on a fee-for-service basis. A system of referral to the public health nursing service from physicians and hospitals was developed to provide continuity of care based on the newer concept of the role of the nurse in rehabilitation.

This program will continue.

Disease of the heart and vascular system leads all other causes of death in Montana and alone is responsible for over half of the total mortality of the State. In addition, it is almost equal to arthritis as the major cause of disability.

There are two major parts in the control of heart disease in the State Board of Health: (1) the Control Program and (2) the Rheumatic Fever and Heart Diagnostic Center.

HEART DISEASE CONTROL

GENERAL ACTIVITIES IN THE CONTROL PROGRAM

The success of the initial assignment of a U.S. Public Health Service officer for a two-year period to the SBH staff has established a continuing basis for comprehensive work in the prevention of heart disease. With a full time physician director it has been possible to improve the service in the State over the last three years.

The addition of a cardiac nurse consultant to the staff was designed to meet the needs of local public health nurses throughout the State in their cardiovascular nursing service. Consultation in the nursing care of the cardiac patient was offered and community service was planned. Local public health nurses increased their activities in this field to meet the community needs and requests. Their public health nursing visits have risen from 1,800 in 1959 to 3,000 in 1961.

A close liaison is maintained between the SBH and the Montana Heart Association. This insures the most economic approach to fulfill project aims. By pooling resources and cooperative planning, duplication of effort is avoided.

RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE

One category of heart disease is now preventable! The initial event in rheumatic disease is a bacterial infection caused by Group A Beta hemolytic streptococcus. This organism is very sensitive to antibiotics, especially penicillin. Therefore, through the administration of this drug, recurrent attacks of rheumatic fever with rheumatic heart disease often resulting can be prevented.

Through the cooperative efforts of the M.H.A. and the SBH, Montana has a comprehensive program in rheumatic fever prevention. Penicillin is available to every patient for whom it is prescribed. For those in need of some financial assistance, the M.H.A. provides the drug at a low cost. Patients can be enrolled in this program by their physicians.

Then for those financially unable to purchase the drug through this program it is available through the SBH at no cost.

A recent analysis of the service by the two agencies revealed a steadily rising enrollment of over 1,000 rheumatics, with a very low drop-out-rate as compared to the experience in other parts of the country. The most significant change, from an analysis made previously, was a decrease in the average age of the group. This was due to the early influx of adults when the service first became available, while the most recent enrollments have been chiefly children who have experienced their first attack of rheumatic fever.

Montana's high incidence of rheumatic fever has recently been re-confirmed by a national study of college freshmen. This study reveals that Montana students have almost twice the rate of this disease as the national average.

The educational program designed to help the college students understand the cause and prevention of recurrent attacks of rheumatic fever has been continued. During the 1960-62 biennium 5,358 physical examination forms have been returned by the health service physicians. Of this number 185 are positive, giving Montana a rate of 34.7 per 1,000. The national rate is only 25.7 per 1,000.

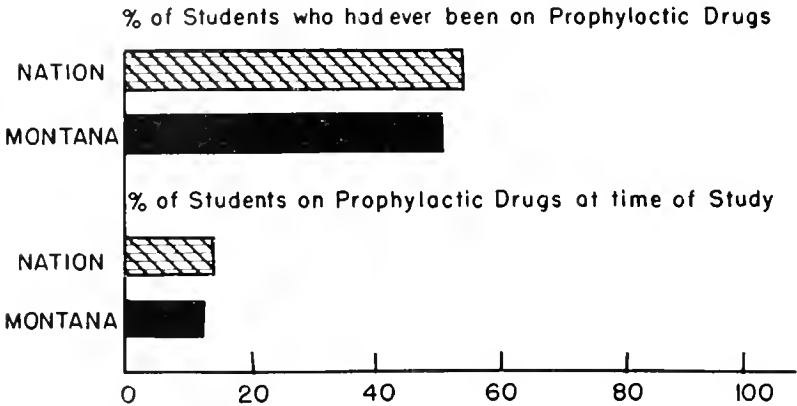
The following graph shows the need of a continuing education program directed to susceptible groups as to the value of penicillin prophylaxis. Of the total number of college students in this study who should have been on this daily medication to prevent "strep" infections, it will be noted that slightly more than half of them had ever been on the drug—both in Montana and the nation and the number who were on the prophylaxis at the time of the examination was shockingly low—12% for Montana and 14% for the nation.

HYPERTENSION AND CONGESTIVE FAILURE

A significant part of the physician's therapeutic regime in the treatment of congestive failure is the restriction of the salt intake. The amount of salt in the water supply of various communities in Montana is sufficiently high to require consideration in this regard. The private physicians are therefore provided with an analysis of the salt content of the major public water supplies in the State. In addition, private water supplies are analyzed, without charge, when requested by a patient's physician.

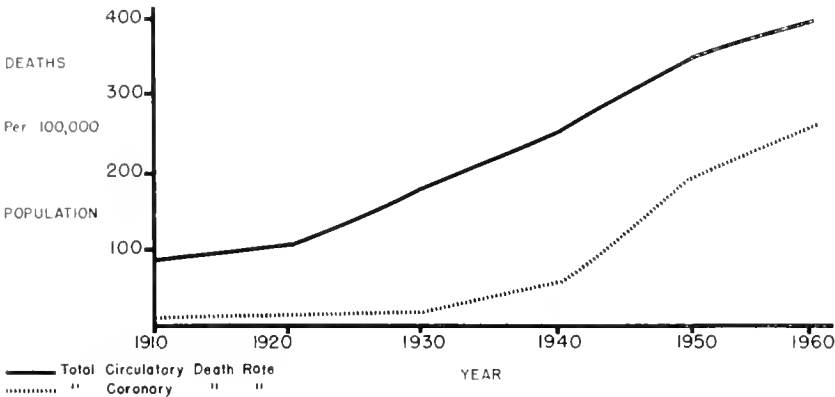
Preliminary study by the staff in the heart disease control program has uncovered a high incidence of hypertension in an isolated population

% of Students Who Should Have Been on Prophylactic Drugs



group in Montana. This has proven to be of interest to a Western Reserve University team. This team will make an epidemiological investigation of this group early in the next biennium with the SBH staff assisting. This is but one small part of the total effort going into research in heart disease control by private and official groups.

MONTANA CIRCULATORY AND CORONARY DEATH RATES



Disease of the coronary arteries is the leading single cause of death in Montana. It causes approximately 70% of the circulatory deaths in this State. The accompanying graph illustrates the driving force this entity plays in the general rise of cardiovascular death rates.

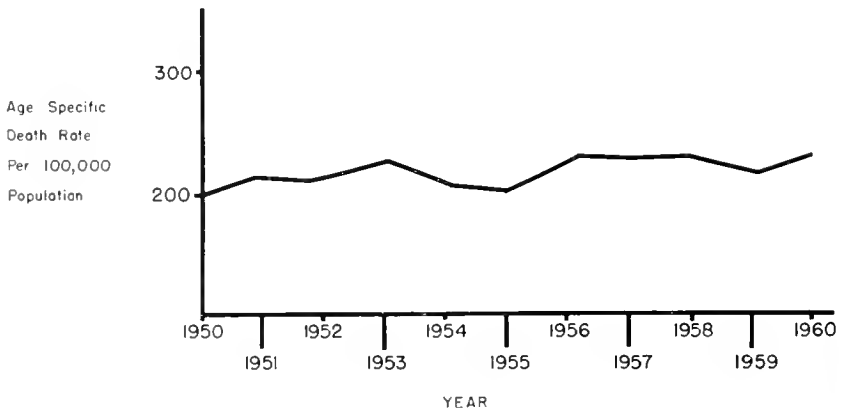
In addition to the large number of deaths, another factor of major concern is that one-third of these deaths occurred between the ages of 35 and 65 years as shown on the graph below. This is all the more sig-

nificant when one realizes that this is the age group which is vital to our social and economic structure.

Since this condition does not exist in some other population groups in the world, it is a misconception that this is the result of our increasing life expectancy. Furthermore, when people from these same population groups come to this country to live, the prevalence of this disease among them has a pattern similar to their fellow Americans.

This, then, has led to the implication of several contributing factors such as heredity, diet, obesity, blood cholesterol and stress. It is likely that many, if not all these, contribute to the arteriosclerotic process. For this reason, the SBH Heart Disease Control Program has been directed to both

MONTANA CORONARY DEATH RATE (AGES 35-64)



professional and citizen education in bringing the rapidly expanding knowledge in this field to them. Through the Scientific Sessions of the M.H.A. and the Nurses' Cardiac Workshops, co-sponsored by the SBH, a wealth of new information is presented to these professional health personnel in Montana. The Montana Nurses Association was also one of the sponsors of the nurses' workshop.

A blood cholesterol screening program was conducted in Lake and Sanders Counties. The purpose was to establish the cholesterol range in different segments of the population. This test is the best means now available in locating those individuals who are predisposed to coronary artery disease. All persons in the screening program who were suspected of this disease were referred to their physicians for further study. It is hoped that the publication of this data, in the near future, will demonstrate to other areas in the State the value of early diagnosis in the prevention of coronary complications.

The Rheumatic Fever and Heart Diagnostic Center, located in the Montana Deaconess Hospital in Great Falls continues to operate at capacity. This center provides diagnostic and consultative services to the physicians from all parts of the State. As an illustration, during the last six month period, 159 patients were seen from 70 towns located in 39 counties.

The services provided by the Center during this report period are as follows:

	July '60-June '61	July '61-May '62	Total
Total Cases Seen	292	280	572
Total Cases Seen Only by Medical Director	52	29	81
Cases Seen by Director & Consulting Physicians	240	251	491
Cardiac Catheterizations	7	18	25
Angiocardiograms	6	1	7
Dye Study ..	0	1	1
New Cases ..	133	139	272

Of the 572 total number of patients seen, 272 were new referrals and the remaining 300 were followup visits from referrals made in previous years.

The cases seen at the Center may be divided into two main categories: (1) those cases in which a definitive diagnosis can be given and the patient then returned to his family physician with no other services needed and (2) those cases in which additional services are needed, often heart surgery which must be referred outside the State. No open heart surgery is as yet available in Montana and certain diagnostic procedures cannot be done here because of the tremendous expense of some equipment which would be required.

During the biennium 97 patients were referred to larger centers for the consideration of heart surgery. Of these cases, 49 patients were operated upon, 26 were deferred or declared inoperable and 22 decisions are still pending.

Out-patient clinics are held twice each week. The procedure followed includes an interview by the nurse which supplements the very complete histories received at the Center from the local public health nurses, electrocardiograms, x-rays, such laboratory procedures as may be indicated and general examination by the medical director and the heart disease control director. These procedures are followed by an examination by the medical consultants specializing in cardiology, pediatrics and or thoracic surgery. The patient may be seen by anywhere from one to five physicians, depending on the nature of his needs.

Following the completion of these studies, a general summary of the findings and recommendations is given to the patient or his parents. A very complete report goes to the patient's family physician and every patient is urged to confer with his family physician on returning home.

RHEUMATIC FEVER & HEART DIAGNOSTIC CENTER

SERVICES GIVEN

REFERRALS MADE TO LARGER CENTERS

CLINICAL DIAGNOSES

The following are the diagnoses made on the patients seen during the biennium:

	Rheumatic Fever Active	Rheumatic Fever Inactive	Chronic Rheumatic Heart Disease	Congenital Heart Disease	Suspected Heart Disease	No Heart Disease	Innocent Murmur	Other Heart Disease
July 1960 through June 1961	2	23	36	157	1	8	66	—
July 1961 through May 1962	1	12	38	141	1	—	77	9
TOTALS	3	35	74	298	2	8	143	9

When cases are referred to large centers, the Montana Center serves as a wayside station for evaluation of the patient and for the making of arrangements for referral to the larger Center. Services may be financed privately or when families need assistance, children under 21 years of age are provided with care through the Crippled Children's program. The Center also works closely with the Bureau of Vocational Rehabilitation in providing services to many adult patients. Through services provided by the Center, there is an overall saving of both private and public funds in providing care for Montana's cardiac patients.

NEW FACILITIES PLANNED

The director of the Heart Diagnostic Center is serving as Chief of Staff of the Montana Deaconess Hospital during the 1962 year and is also chairman of the Medical Planning Committee for the new hospital. This has provided an opportunity for the needs of the Center to be given optimal consideration in the new hospital construction plans. It is anticipated that construction of the new hospital will be underway in the near future.

NEEDS

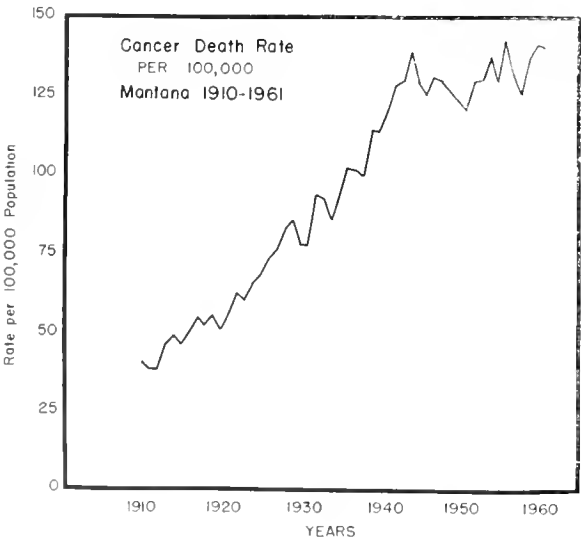
Since the Center is now operating at near maximum capacity it will be impossible to increase the patient load. To do so will mean an increase in the staff and in the number of outpatient clinics conducted each week.

CANCER CONTROL

There were 958 deaths from cancer in Montana in 1960 and 965 in 1961. This high death rate has presented a challenge to the practicing physicians, the State Board of Health and the Montana Division of the American Cancer Society. These groups are now taking a closer look at what might be done through proper correlation of education and service in the prevention of unnecessary deaths from cancer.

SBH PROGRAM STEPPED UP

With the employment of a full time physician in January 1962 plus the assignment of a public health nursing consultant full time and part of the time of a health educator, it has been possible to initiate an active control program. This is the first time the Board has had staff devoting full-time to this program.



SERVICE PROGRAMS ENCOURAGED

The establishment of tumor clinics in local areas to which financial assistance will be given has been encouraged. An increase of financial assistance will be given when the local tumor clinic is approved by the American College of Surgeons.

A cervical cancer detection survey was started for the patients in the State Hospital at Warm Springs. While not yet completed, as of June 30, 1962, 220 women had been screened. Of these there were 10 Class III suspected cancers which require further diagnostic work.

CANCER EDUCATION

With new developments in cancer control occurring so rapidly, seminars are planned for the practicing physicians to which they can bring their patients. These semi-

nars will be staffed by outstanding specialists who will bring the latest information and methods of treatment to the Montana physicians.

In view of the fact that there were 26 deaths from cancer of the cervix in 1960 and 27 in 1961, an intensive educational program was initiated on a pilot basis. Cancer of the cervix can be cured if found and treated early—women do not need to die from cancer of the cervix! However, this depends upon the women presenting themselves to their physicians for examination.

This pilot educational program was carried out in Anaconda and all women over 20 years of age were encouraged to go to their physicians for an examination. With the cooperation of the practicing physicians, the SBH physician, and with some assistance from the health education consultant and the local members of the Cancer Society, this has been a successful program.

Plans are underway to extend this program to other areas of the State during the next biennium.

Emphasis has been placed on educational programs for public health and hospital nurses. The public health nurses are alerted to guide people with suspicious symptoms to seek medical care.

Cancer education programs were conducted in four districts of the Montana Nurses' Association, in Havre, Helena, Butte and Hamilton. In Havre and Helena there were three sessions; in Butte a one week refresher course was offered to nurses, with emphasis on rehabilitation.

Instructors in schools of nursing, public health nursing supervisors and senior public health nurses attended a one-day meeting on cancer control. More than 150 nurses were reached through this educational program.

OCCUPATIONAL HEALTH

Since well over 95% of all the industries in Montana are too small to support their own occupational disease programs, most of the State Board of Health services in this field of endeavor have been directed to these industries. Among the establishments studied are dry cleaning plants, laundries, mines and metal reduction operations, educational institutions, banks, professional health services, lumber and manufacturing operations.

The working relationships between the State Board of Health staff in occupational health and the large industries which have their own occupational health services have been most satisfactory.

The components of principal concern in industry are dust, lead, noise, sulphur dioxide, cadmium and zinc oxide, sulfuric acid mists, x-rays, chlorinated hydrocarbons, tars and smoke, asbestos, carbon monoxide, free silica and solvent vapors.

To combat the harmful effects of these components, recommendations for the control of these substances involve the substitution of less toxic materials for those of toxic nature whenever possible and improved ventilation of dusty or fume-laden atmospheres.

PRINCIPAL PROBLEMS

Because of an inadequate staff many of the activities that could improve industrial health conditions cannot be carried out. This has caused a neglect particularly in the agriculture and the automotive industries.

Another problem has come about due to the large variety of new materials used in industry, particularly solvents. With the introduction of these into the working environment it is necessary to develop new methods for their analysis and control.

Even though control activities in mines have decreased, due to the efforts of the mining industry and to the fact that there are fewer numbers of mines now operating, there is a need for continued inspections.

Silicosis continues to be a problem in many mills and other similar "dusty" operations. With the increasing scope in the highway construction industry this problem is no doubt increasing.

In general, compliance with the recommendations for the control of hazardous circumstances in these industries has been poor.

AREAS OF PROGRESS

Where it has been possible to plan with new industries before plant construction begins, it is often possible to eliminate the development of unhealthful circumstances. As more staff becomes available this will become a fundamental part of the program.

In the radiological health program the study of all dental and veterinarian x-ray machines has been completed. Recommendations have been made where there was need to prevent needless exposure to patients or persons operating the equipment.

A follow-up survey is underway among the dentists with a "film pack-type" arrangement to determine compliance with and effectiveness of the recommendations that have been made.

Analyses of milk samples, collected from three participating dairies in Helena, have revealed that the radioactive materials of principal concern have been such that no additional control measures were necessary.

Radiation surveillance of food, water and precipitation, and air has continued in Helena. Air samples for radioactive particulate matter are collected on a 24-hour-a-day schedule and analyzed. The concentrations to-date, except during the period of the Russian testing, did not rise significantly above background levels.

Analysis of the air radiation content has been extended to six other cities in addition to Helena and shows that there is little variation between the radioactive levels of these cities and Helena. These cities are Anaconda, Billings, Butte, Great Falls, Missoula and Libby. This is a part of an air pollution research program carried on by the State Board of Health.

The air pollution research program was started in July 1961. Air samples are analyzed for tar fraction which may have some carcinogenic potential, arsenic, lead, fluorides and occasionally copper and zinc.

An analysis was made on 470 samples obtained from these seven operating stations each month. During the biennium approximately 6,000 determinations were made.

In addition to the air sampling program a morbidity-mortality survey is being carried on by the hospitals in these seven cities. This is to determine whether or not there is any correlation between atmospheric conditions prevalent during the period and the respiratory ailments reported for that period.

The U.S. Weather Bureau is also participating in the program to correlate data on the atmospheric conditions existing for each day during the period.

THE CHEMISTRY LABORATORY

The chemistry laboratory provides services for several of the Board's programs. The laboratory work consists of analyzing samples of water, air, body fluids, food and



Laboratory Procedures Connected with Air Pollution Control Are Discussed at a Professional Staff Seminar.



Air Pollution Does Occur in Montana.

drugs, and miscellaneous materials. Its purpose is to determine what or how much material is present in each sample—this in many instances may be as little as micro-quantities.

The total number of samples analyzed numbered 4,289 and 13,341 determinations were made. This is an increase of 908 samples and 4,863 determinations over the previous biennium.

WATER SAMPLES

Water samples are analyzed routinely for the presence of minerals. This is to establish the fitness of the water for domestic use. During this period samples of public water supplies were also analyzed for radiation measured as gross beta activity. This is done to determine any increase in radiation levels in Montana's waters over the base-line which was established during the previous biennium. To date no noticeable increase has been noted and all samples analyzed have been well below the accepted maximum.

Water samples are also analyzed for toxic materials to determine whether or not the water supply is fit for human consumption. All public water supplies are checked routinely for the presence of nitrates. An excessive amount of this chemical can cause methemoglobinemia in infants.

Approximately 52% of the water samples tested are for the purpose of determining stream pollution. These samples are analyzed to determine the existence of phenols, cyanides, copper, lead, arsenic and other toxic materials. An index to establish the extent of the water pollution is

arrived at by oxygen consumed and by the biochemical oxygen demands.

Public water supplies are also tested routinely to determine the sodium content. On physician request this test is performed on private water supplies. Sodium in the water supply is one of the elements injurious to patients with heart disease.

In cooperation with the Dental Division, a dentist may request an analysis for fluoride in a private water supply to aid in the control of dental caries in the patients. Fluoride content of public water supplies is a routine testing procedure.

OCCUPATIONAL HEALTH SAMPLES

The chemistry laboratory runs tests for the Board's Occupational Health program. During the biennium 486 or two-thirds of the occupational health samples were air pollution samples.

It took the time of one chemist and a laboratory technician for more than a year to run these tests. The air samples are analyzed for total particulate, benzene soluble substances, arsenic, lead and fluorine. A small number of samples were analyzed for copper, zinc and chromate. In Butte, Helena, Anaconda and Missoula samples of air for sulphur dioxide determinations were collected. Fifteen of these were analyzed in the laboratory.

ALCOHOL DETERMINATIONS

Chemical analysis of urine and blood for alcoholic content are run to aid the Montana Highway Patrol in drunken driving cases taken to court. There were 923 samples submitted during the biennium. Members of the chemical laboratory staff spent a number of days relative to these court cases.

FOOD & DRUG ANALYSIS

617 examinations of food and drug samples were made. These samples are analyzed to determine compliance with standards as set up by State law and the U.S. Food and Drug Administration's regulations. These analyses are to determine such things as the amount of moisture and fat present in ground meat. For ground meat there is a standard for fat and it is necessary to establish that the fat in ground meat does not exceed this standard.

OTHER SERVICES

The chemistry laboratory also runs many miscellaneous tests for other State Board of Health divisions and also for other State Agencies, local health departments and private pathologists.

The laboratory staff have continued to collaborate with the U.S. Public Health Service in work to establish standard procedures for analyzing certain samples. The purpose of this program is to assist in searching for the most satisfactory method of analysis for each material.



During the Biennium There Was an Increase of Approximately 27% in the Number of Samples Run and an Increase in Number of Determinations Made Over the Last Biennium.

ENVIRONMENTAL SANITATION

THEN . . .

Reducing typhoid fever cases and deaths appears to have been one of the motivating forces of the early developments of the environmental sanitation program. The State Board of Health bulletin in its November 15, 1908 issue states " . . . during the last two months typhoid fever has cost the people of this state the sum of \$80,342.00. In addition to this, 46 people died from this disease."

NOW . . .

While many are prone to believe that typhoid fever has disappeared, Montana had one death in 1961 and 20 cases were reported. Admittedly, most of this was among the Indian population who are not served with proper sanitary facilities. This was the greatest number of typhoid cases for Montana in many years and emphasizes the necessity for constant vigilance in water, sewage and food sanitation and the need to be aware of the methods by which this disease is spread.

SUMMARY OF DUTIES

The Division of Environmental Sanitation is concerned with the various aspects of sanitation as they relate to the person and his environment and for which the Montana State Board of Health has legal responsibility. The sanitation of the environment involves not only the tourist who may be away from home, but also people in their own residences and home community. In carrying out these duties, operators of municipal water supplies are given consultation in order to maintain drinking water at a safe level. Regulations concerning food preparation and serving are promulgated and enforced insofar as possible. The same is done for camps and motels. Liaison is maintained with industry and with municipalities to keep Montana streams clean. Licenses are issued to food manufacturing and preparation plants, and the staff is concerned with the adulteration of food. School plans are reviewed to insure a safe environment from the standpoint of heating, lighting, ventilating, and plumbing.

PUBLIC WATER SUPPLIES

During the summer of 1961, a severe drought affected some of the State municipal water supplies. This was a particularly difficult problem along the Musselshell River where several of the communities obtain the public water supply from infiltration wells along the river. When the river becomes dry, the wells are also dry.

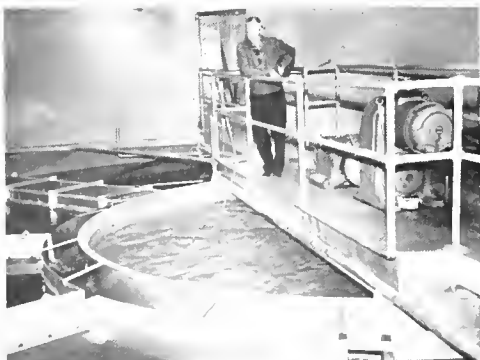
Other municipalities found themselves short of water due to the tremendous demand upon water supplies to serve irrigation and other community uses. Sometimes the pipelines were not sufficiently large to supply the excessive demand. In a few instances the wells did not produce a sufficient water supply.

Water plants and the distribution systems in the State continue to be improved by the extension and replacement of water pipelines, by obtaining additional wells, and by the improvement and enlargement of water treatment facilities.

Safe water is currently supplied to approximately 445,000 persons residing in 130 different communities. Another 48 supplies did not meet established standards, either because of contamination or failure to submit a sufficient number of samples. These 48 supplies serve a population of 28,000 persons. Of this number, 1,139 persons, served by eight of the supplies, were notified to boil or disinfect the water for domestic use. A chlorinator has now been installed for one of these supplies, and arrangements are being made to install a chlorinator at another supply.

Routine samples are obtained from each of the municipal water supplies throughout the State, once a month or more frequently, to determine the bacteriological quality of the water. The bacteriological water testing schedule follows recommendations of the U.S. Public Health Service.

In addition to the bacteriological examination of water, chemical analyses are made of all new public water supplies, proposed supplies, and an effort is made to routinely check the chemical quality of each municipal supply every five years. Recent standards promulgated by the U.S. Public Health Service recommend that this chemical analysis of municipal water supplies be made



Water Softening Unit at Glendive's Water Plant.

at least once each six months. In Montana this cannot be done unless the chemical laboratory facilities are greatly increased.

The number of samples tested during the last biennium are shown in the table below:

Water Samples Tested July 1, 1960 to June 30, 1962			
	Bacteriological	Chemical	Total
Public Water Supplies..	13,527	604	14,131
Private Water Supplies	2,380	318	2,698
School Water Supplies..	340	—	340
Tourist Court Water Supplies.	185	—	185
U.S. Gov't. Water Supplies	854	—	854
Stream Pollution Studies	666	1,059	1,725
Miscellaneous Sources	49	25	74
TOTALS	18,001	2,006	20,007

Engineering inspections on each public water supply are made at least once each fiscal year. The frequency of visits is increased during emergencies. In addition to these inspections, watering facilities serving interstate traffic are inspected at 18 railroad watering points and three airplane watering points.

The engineering inspections made during this report period are tabulated below:

Engineering Inspections Made by Environmental Sanitation Division July 1, 1960 to June 30, 1962		Number
Inspections of Municipal Water Supplies		321
Inspections of Private Water Supplies for Individuals		11
Inspections of Sewage Disposal Systems (Public)		261
Stream Pollution Studies		50
Inspections of Swimming Pools		23
Miscellaneous Inspections		33
TOTAL		699

STATE MUNICIPAL WATER FEES

The Montana State Board of Health collects from the various water departments fees which are paid into the State General Fund for services rendered by the State Board of Health. These fees range from \$10.00 per year to \$450.00 per year. A breakdown of these fees is shown in this report on page 71. It is recommended that serious consideration be given to having all accounts collected through a central agency that could devote its time to this phase of the work.

WATER SCHOOL

In order to assist the men who operate the water treatment plants, sewage treatment plants and their related facilities, an annual school for water and sewage plant operators is held each year at the Montana State College. This school is held in cooperation with Montana State College, American Water Works Association, Montana Water Pollution Control Association, the Montana Municipal League, and the Montana State Board of Health. Attendance at this school varies from 60 to 75 persons.

SWIMMING POOLS

During the biennium, 16 new swimming pools were constructed, and three remodeled. The plans for these pools are all reviewed and must be approved by the State Board of Health before construction. Older pools that



Sewerage Construction
in Missoula.

are not properly constructed or operated, in a few instances, have been a source of problems including transmission of an eye infection.

WATER POLLUTION ABATEMENT

Through the efforts of the State Water Pollution Council and the State Board of Health, Montana is carrying out its own water pollution abatement program and is not waiting for Federal Government intervention. Except for drainage from Wyoming and Canada, most streams drain out of Montana. The Federal Government can intercede if these streams leave the State contaminated. Montana representatives meet with the officials responsible for water pollution control from both the Columbia and Missouri Basin Drainage areas. Through these meetings water pollution treatment can be so integrated that the demands of other states can be met. These demands are determined by their necessary water usage. At the same time treatment requirements can be determined so that excessive treatment is not required within Montana.

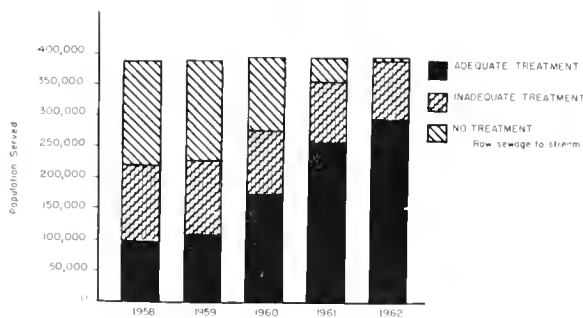
During the biennium there were 15 new sewage treatment plants constructed or under construction. Sewer systems and treatment plants are now under construction at Roberts, Belt, and Twin Bridges. Treatment facilities are being or have been installed this biennium at Cascade, Fort Peck, Fort Harrison, Laurel, Miles City, Yellowstone Dam, Eureka, Fromberg, Hardin, Missoula, Philipsburg, Polson, Three Forks, Whitefish and at the 15 Minuteman Missile Control Centers.

Since 1956, the Federal Government has assisted communities with their sewage treatment by providing an outright grant of 30% or \$250,000, whichever might be smaller, for treatment or connections to the treatment facilities. This grant maximum of \$250,000 has recently been increased to \$600,000. A total of 58 communities in Montana have taken advantage of this grant program, and to date have received \$3,088,805.00. Of these 58 grants, 50 plants are completed or under construction, and eight are yet to be built.

In 1958 the State Water Pollution Council strengthened the State Board of Health treatment requirements by adopting additional standards to protect Montana streams. As the graph indicates, there are approximately 90,000 persons now living in sewered communities that do not have treatment adequate to meet present criteria.

While Montana municipalities have taken steps to improve sewage treatment, Montana industries have also made tremendous strides, much of this requiring tremendous expenditures of funds. The mining waste problem from the vicinity of Butte and Anaconda has been corrected. There have been problems from pulp mills, oil refineries, sugar factories, and slaughter houses. These industries have either corrected their problems or are in the process of correcting them.

Total Sewered Population Served by Sewage Treatment Facilities
MONTANA
1958 - 1962



The Photo at Right Shows Members of the President's Water Pollution Control Advisory Board Looking Over a State Board of Health Exhibit. This Exhibit Shows the Progress That Has Been Made in Montana's Stream Pollution Abatement Program from 1953 to the Present. The Advisory Committee Held Hearings in Missoula and Butte in September 1961. Pictured from Left to Right are: Robert Ayers, Executive Director of the WPC Advisory Board, Washington, D.C.; Board Members: John Biggs, Olympia, Washington, Director, Dept. of Game; John Samson, Omaha, Attorney and Chairman of the Nebraska WP Council; and Former Mayor Tom McCann of Fort Worth.



—Photo Courtesy Daily Missoulian

STATE WATER POLLUTION COUNCIL

With the classification of the Missouri River following a public hearing at Great Falls on December 6, 1960, the State Water Pollution Council completed the classification of all Montana streams.

The Council had five meetings during the biennium. The State Board of Health enforces the pollution law and regulations of the Council. While great strides have been made in removing wastes from the streams, there still remains a problem in attempting to control silt.

If air pollution legislation is adopted, it is anticipated the water pollution problems will increase. Many air pollution control processes require water for the removal of gases and solids in the stack wastes. This could necessitate special additional treatment of the water before it is discharged to a stream.

SANITARY LICENSEES

Sanitary licensees pump out septic tanks, cesspools and privies. They are licensed by the State Board of Health, but must also obtain a permit from the local health officer before each unit is cleaned. Some counties handle this program well, and others do practically nothing.

During the 1961 fiscal year, 48 individuals were licensed for this purpose and in 1962, there were 71 licensed. Since legislation requiring this licensure was adopted in 1951, many other states have adopted similar legislation.

WATER AND SEWAGE CONTROL IN SUBDIVISIONS

Since passage of the 1961 law requiring the State Board of Health to approve water and sewer facilities in subdivisions, 39 plans have been received. As of June 30, 1962, 23 of these had been approved. To carry out the law, regulations were adopted which require the subdivider to provide, to the State Board of Health, much the same information that would be supplied if a Federal insured loan were obtained. This legislation has been a step forward in protecting those who live in subdivisions, although the law needs some revisions to be as effective as it should be. In addition to health protection, an indirect benefit of the law is more orderly development of subdivisions.

SCHOOL PLANS

Plans for all school building construction and remodeling must be approved by the State Board of Health. Such approval covers provisions for heat, light, plumbing, and ventilation. During the biennium, 145 such plans were reviewed and approved by the Division of Environmental Sanitation.

A committee to review the law and regulations covering school construction was appointed by Governor Nutter. Changes in the regulations are being prepared for the State Board of Health by this committee. These changes are needed to take advantage of new concepts in school building.

However, in order to permit changes in the regulations, necessary changes are needed in the law. These changes are being prepared for legislative action.

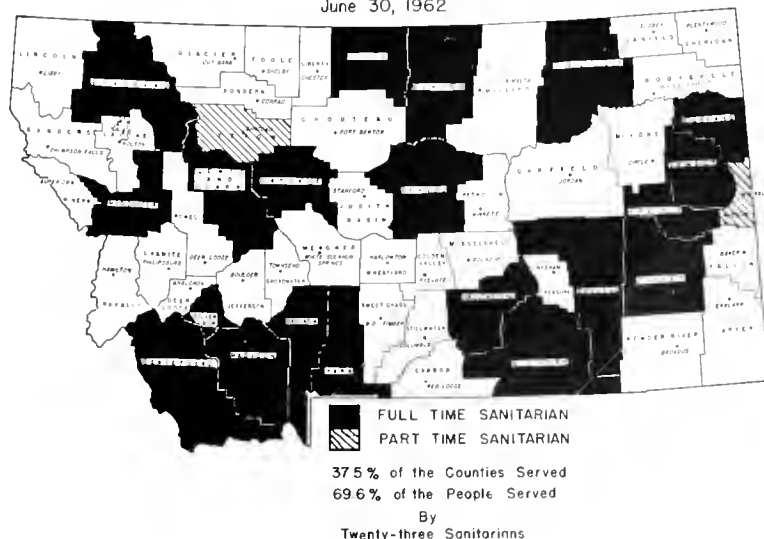
GENERAL SANITATION

General sanitation responsibilities include: food and drink establishments, food manufacturing establishments, food and drug control, meat markets, locker plants, motels, tourist courts, rodent and insect control, camp sanitation, economic poison control, mattress and overstuffed furniture laws, and garbage disposal.

These responsibilities are shared by the State Board of Health staff, local sanitarians, and local health officers. In addition to protecting the health of the citizens of the State, the general impression of the traveling public is frequently gained through the activities of this Division. If the State is to be attractive, those traveling expect to find clean restaurants; clean, well-maintained

MONTANA COUNTIES with LOCAL SANITARIAN SERVICES

June 30, 1962



motels, and clean streams. Picnic grounds and camping areas with inadequate or improperly maintained toilets, dirty campsites, improper garbage disposal and where the insects descend upon any car that stops certainly do not attract people to return to the areas. If these sites cannot be properly maintained, it would be better not to have them.

In addition to some direct services, the State Board of Health staff provides assistance and consultation to the sanitarians employed in 20 of Montana's counties. Counties employing sanitarians are shown on the map on page 37.

Where there are no local sanitarians, sanitarian service must be supplied by the health officer in that county. In these areas, the services depend upon both the interest and time available to the local health officer. Since part time health officers are practicing physicians, they usually become involved in sanitation only when an emergency develops.

All sanitarians working in Montana must be registered with the Sanitarian Registration Board. This legally constituted board is appointed by the Montana State Board of Health.

During the biennium, 200 of the 3,535 eating establishments were inspected by the State Board of Health staff. Restaurant surveys were conducted in five communities and training sessions for food service personnel were held in 27 different areas. These training programs included 63 sessions and 1,124 persons attended them. The same staff actively participated in the Indian sanitation program and worked closely with the Indian sanitarian aides in order to give them guidance and direction. Meetings were held with Home Demonstration groups throughout the State. A meat labeling policy was developed with the Livestock Sanitary Board.

Four three-day in-service training sessions were conducted for sanitarians during the biennium.

Eating establishments, meat markets, food processors, soft drink establishments, tourist courts and locker plants are licensed by the State Board of Health. During the biennium, 15,297 licenses were issued. Funds collected and deposited in the State's General Fund are shown on page 71 of this report.

During the biennium, county attorneys were requested to prosecute operators of four public eating establishments, one meat market and one trailer court for operating in violation of the sanitary requirements. None of these prosecutions were taken to court and were either corrected or have not yet been acted upon by the county attorney. Licenses were refused one meat market and one motel for poor sanitary conditions.

FOOD AND DRUG

The food and drug laws are enforced in cooperation with the Federal Food and Drug Administration. The work includes participation in controlling adulteration and misbranding foods and drugs sold in Montana.

The State Board of Health staff's activities include the review of labels on bread and milk containers, the removal of dyed potatoes from the market, and a continuing program for collecting and testing hamburger. The labels are reviewed to determine their accuracy as to whether or not they mislead the public; the dying of potatoes is an economic fraud since this makes year-old potatoes take on the appearance of new potatoes; and hamburger is tested for excessive water, fat, preservatives and cereals. The chemical laboratory tested 306 hamburger samples during the past year. In addition to this, a portable hamburger fat testing device has been purchased and is used in the field. This will make possible



Flour Contaminated by Mice.

the screening procedure in the field to determine which places may be manufacturing a hamburger that does not meet Montana requirements and submit these samples to the laboratory. The testing in the field, particularly at the establishment where a person is making the hamburger, has much to offer since it shows the operator when he is conforming to Montana requirements.

GARBAGE

The State Board of Health provides guidance to municipalities concerning garbage disposal, which is a continuing problem. The only law that now exists relates to the location of dumps with respect to the highways. Garbage disposal, besides creating nuisance problems, also creates health hazards by providing breeding places for flies and rats.

Rats are common carriers of plague. So far no plague has been found in Montana rats, but it has been found in wild rodents in southwestern Montana. Should the rats, now prevalent in northeastern Montana and the center of the State, become prevalent in areas where plague-carrying wild rodents are found, it is anticipated that the rats will become plague-carriers.



One of Montana's Serious Sanitation Problems Can Be Found Along Garbage Strewn Highways.

During the past ten years, rats have migrated from the northern part of Valley County westward to Blaine County. To control rats, the primary requisite is proper garbage disposal and poisoning.

RELATED ACTIVITIES

The State Board of Health is represented on both the State Plumbing Board and the Well Drillers' Licensing Board. These Boards have been established to protect the health of the public. There are 400 master plumbers, 800 journeyman plumbers, and 122 well drillers currently licensed.

SIGNIFICANT PROBLEMS

One of the primary problems facing the State Board of Health is the poor sanitarian coverage. Sixty percent of the Montana counties do not have sanitarian services by either local or state personnel. In these areas, sanitation is carried out by the individual, many of whom do not know proper sanitation procedures, making it a hazard for the public that must come in contact with them.

The Montana State Board of Health now issues five different types of licenses to food manufacturing, food serving, meat markets, and locker plants together with motels and trailer courts. In many cases, the establishment buys two or more licenses. It is proposed to reduce this to two licenses, one for food processing and one for tourist camps and motels. This would increase economy and efficiency and would eliminate many questionable situations for the operators. To do this, legislation is needed.

Other specific legislation is required to: (1) clarify the status of swimming pools in the State Board of Health's responsibility, and (2) control of garbage disposal.

To fulfill the requirements in environmental sanitation as specified in Montana's laws, more personnel are needed.

HOSPITAL FACILITIES

THEN . . .

Until 1947, there were no regulations for the construction of Montana hospitals. The only licensing requirement, adopted in 1941, was for the maternity departments of hospitals and maternity homes.

NOW . .

The construction of all hospitals, nursing homes and homes for the aged must now meet standards set by the State Board of Health. These facilities are also licensed annually. Standards for both construction and licensing are revised periodically in order to upgrade the facilities and care they provide and to take advantage of the new recommendations that are continuously being made.

HOSPITAL & MEDICAL FACILITIES SURVEY & CONSTRUCTION

As of June 30, 1962, 46 projects in Montana have received financial assistance since the beginning of the Federal Hospital and Survey Construction Act (Hill-Burton) passed by the Congress. This act became effective on July 1, 1947. In addition two projects have been approved for construction.

In 1957 Congress authorized funds to be made available for the construction of Indian health facilities to be used in the construction of community hospitals in a Reservation area.

By utilizing funds under the Hill-Burton Act for non-Indian beds and Indian funds in the construction of one hospital, better services can be provided than if two separate facilities were constructed in the same community. Under this plan, a specified number of beds are provided for the Indian population.

Such community hospitals were authorized and completed for Polson, Poplar, and Wolf Point. One for St. Ignatius is under construction. The Indian Health funds for these four facilities amount to \$902,692.66.

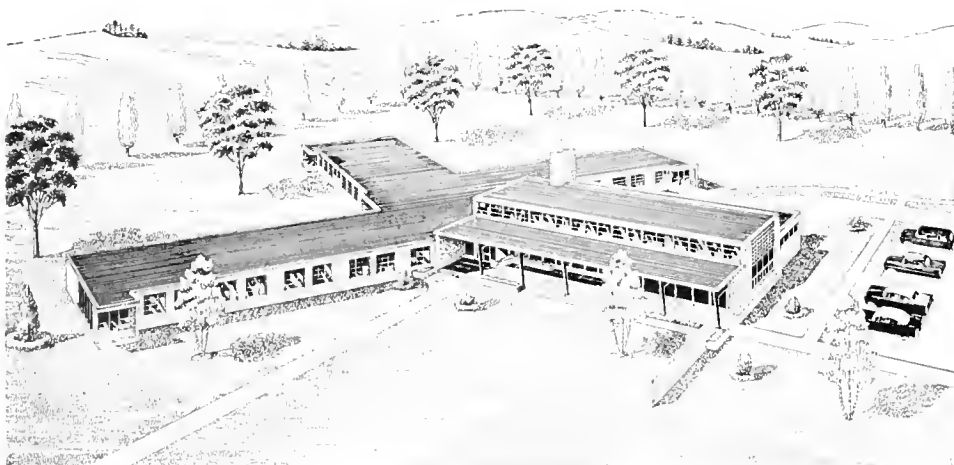
The scheduled and active projects in Montana at the close of the biennium represent a total expenditure of \$14,582,864.23. The estimated Federal share is \$4,452,655.82 with \$775,158.66 Indian Health funds for hospital construction.

Federal allotments received by Montana during the current biennium were:

	1961	1962	Total
Hospital Construction . . .	\$572,790	\$593,365	\$1,166,155
Medical Facilities . . .	300,000	350,000	650,000
Total	\$872,790	\$943,365	\$1,816,155

PROJECTS CLOSED

Four projects were officially closed. They are: State Laboratory Building, Helena; the Nurses' Residence, St. Clare Hospital, Fort Benton; Big Horn County Memorial Hospital and Nursing Home, Hardin; and the Trinity Hospital, Wolf Point. This represented a total construction cost of \$2,260,273.65. This included \$499,081.61 of Hill-Burton funds and \$127,534.00 of Indian Health grants.



Architectural Sketch of Faith Lutheran Home Constructed at Wolf Point During Biennium.

ACTIVE PROJECTS

There were ten active projects in various stages of construction or completion at the close of the biennium. Summarized information for each is shown in the table on page 43. Of these, five projects were completed, requiring only the final inspection and audit preparatory to making the final installment payments. These were: the Hotel Dieu (St. Joseph) Hospital, Polson; the Poplar Community Hospital and Nursing Home, Poplar; the Cascade County Convalescent Hospital, Great Falls; the Billings Deaconess Hospital addition, Billings; and the Silver Bow General and Chronic Disease Hospital, Butte.

Projects placed under construction during this report period were at the Columbus Hospital, Great Falls; St. Vincent Hospital, Billings; Holy Family Hospital, St. Ignace; Faith Lutheran Home, Wolf Point; Miles City (Custer County) Nursing Home, Miles City. Progress in construction would indicate that these projects, with the exception of the Columbus Hospital School for Nursing, will be completed and occupied by the late fall of 1962.

FUTURE CONSTRUCTION SCHEDULED

Scheduled for construction were the Montana Deaconess Hospital, Great Falls, and the Ruby Valley Hospital, Sheridan. Summarized information for these projects is also shown in the table on page 43.

The Montana Deaconess Hospital will be the largest single project undertaken since the inception of the hospital construction program. This will involve the construction of a 158 bed general hospital, a 25 bed psychiatric unit, out-patient department, research laboratory facilities, residence for 117 students enrolled in the School for Nursing at Montana State College and remodeling of newest of the existing buildings to provide 108 nursing home beds.

The Board, on recommendation of the Advisory Hospital Council, determined that this project receive the balance of available fiscal year 1962 hospital funds and 75% of the anticipated Montana hospital construction allotments for each of the 1963 and 1964 fiscal years. Full Federal participation was granted in the construction of the out-patient department and nursing home from fiscal year 1962 medical facilities construction allotments. Plans and specifications were in the process of preparation with anticipated opening of bids in the fall of 1962. Plans and specifications were also being prepared for a nine-bed community health facility, the Ruby Valley Hospital, Sheridan, with opening of bids anticipated early in 1963.

STATE PLAN REVISIONS

The State Plan for Hospital and Medical Facilities Construction was revised for the two-year period and the latest revision for the 1963 fiscal year was completed. The revisions were adopted by the Board on the advice of the Advisory Hospital Council, following a public hearing.

Projects scheduled for construction from applications of eligible sponsors must be in accordance with the State Plan. Preference is given to areas having the greatest unmet needs for facilities or services. Federal funds are granted on a matching basis of 40% of the total eligible project cost. In some instances full participation cannot be granted due to the limited Federal monies allocated to Montana.

REQUESTS EXCEED FUNDS

Applications for financial assistance in the construction of hospitals and medical facilities continued to exceed available funds. All Federal monies allocated to Montana were utilized with the exception of Rehabilitation Facilities funds. These funds are not transferable to other categories and could not be used since no eligible applications were received.

Montana received \$50,000 each year in this category. The St. Vincent Hospital project at Billings utilized \$739.00 of the 1960 allotment. The balance of \$49,261 from the 1960 allotment and the 1961 total allotment were transferred to the State of North Dakota. This was for use in the construction of an addition to the Medical Center Rehabilitation Unit at the University of North Dakota at Grand Forks.

In making these transfers, Montana was assured that its rehabilitation patients will be received for treatment and care under the same terms as patients from North Dakota are. Montana was also assured that the University of North Dakota will accept students in the paramedical fields associated with the Rehabilitation unit under the prevailing rules for North Dakota students' admission. Also agreed is that Montana students will be given preference over the other non-resident students.



Checking Conductivity of Floors in Certain Areas of Hospitals is a Part of Inspections for Licensing.

LICENSURE OF HOSPITALS & HOMES FOR AGED

BIENNIUM PAYMENTS

Payments made to sponsors are on the basis of completed work, services rendered and equipment delivered at the site at the time inspections are made for payments. The payments made may be from current and, or previous fiscal year allotments. Monies allocated to the State must be encumbered on projects for which construction contracts have been awarded within a two-year period.

Payments during the biennium on 30 projects were made as follows:

Hospital Construction	\$ 894,883.80
Medical Facilities Construction	\$ 582,768.90
Total	\$1,477,652.70

INTEREST IN NURSING HOME CONSTRUCTION

Interest continues in the construction of nursing homes in the State. Several counties will vote on bond issues for the construction of nursing homes in the November 1962 general election. Proprietary groups are also active in this field. The Hillside Manor, Missoula, a 65 bed nursing home was placed in operation in January 1962 and has currently under construction a 40 bed addition. The Wayside Sanitarium, Missoula, contemplates early remodeling and an addition which will give an additional 42 nursing home beds in the Missoula area. There are also several groups interested in providing nursing home beds in the Billings area.

The following is a summary of the facilities licensed by the State Board of Health at the close of the biennium in administering the Hospital Licensing Law and the Boarding and/or Nursing Homes for the Aged Law.

66 General Hospitals	3,705 Beds
1 Tuberculosis Hospital	295 Beds
28 Nursing Homes	975 Beds
(17 sub-units of General Hospitals, 503;	
11 Free Standing, 472 Beds)	
110 Homes for the Aged:	
19 Nursing Homes	410 Beds
75 Personal Care Homes	1,006 Beds
16 Boarding Homes	122 Beds

Inspections were made of all hospitals, nursing homes and homes for the aged prior to the issuance of licenses. Due to staff limitations, only an annual inspection is made of every facility in the State. In facilities presenting licensing problems more frequent inspections are made.

The Standards for Homes for the Aged, which were adopted by the Board in the previous biennium, became effective July 1, 1960. These standards, as well as those for hospitals, serve as the basis for the State Board of Health licensing and construction programs.

In applying the revised Standards, some progress has been made in reducing overcrowding. All patient and/or resident rooms were measured to determine the number of persons that may be placed in the rooms on the basis of minimum area requirements. The maximum number of beds that may be used in the home is shown on the license.

While many private operators would be interested in providing better facilities, the necessary finances are not available to them for the construction. There is available through the Federal Housing Administration a loan arrangement, otherwise the groups must look to private financing. Hill-Burton financial assistance is restricted to counties and non-profit groups.

Through the Board's Nursing Home project, described in this report on page 26, improvement through the inservice training program for nursing home personnel is underway.

FIRE HAZARDS CONTINUE

Of the 110 homes licensed under the Homes for the Aged Law, there are only 11 facilities that would substantially meet the fire requirements under existing standards for new construction.

This means that 90% of the homes for the aged are substandard in relation to fire hazard protection.

There are 36 homes of two or more stories in height presently using the upper floors which will require sprinkler systems by June 30, 1963. In addition to these, there are eight homes of two or more stories not using the upper floors for patients or residents which will also require sprinkler systems.

When the new standards were adopted in 1960, a three year period was given the existing homes to make the improvements necessary to comply with the requirements. After June 30, 1963, the facilities will either have to meet the standards or be closed.

If the accreditation of nursing homes and homes for the aged, which is now being contemplated by several national organizations, is adopted the facilities and services will be improved on a voluntary basis rather than by regulatory means.

SUMMARY OF PROJECT CONSTRUCTION SCHEDULES JUNE 30, 1962

PROJECT	LOCATION	No. of Beds	Total Est. Cost	Est. Fed. Share	Status
I. HOSPITAL FACILITIES					
Hotel Dieu	Polson	40	\$ 872,219.72	\$ 282,400.23 166,019.14 1-H*	Completed
Poplar Community Hosp.	Poplar	22	460,171.81	77,220.89 265,000.00 1-II	Completed
Cascade Co. Conv. Hosp.	Great Falls	80	1,247,211.21	328,500.00	Completed
		Remodeling Nurses School			
Columbus Hosp.	Great Falls		1,043,369.01	583,047.30	Contracts Awarded 7/3/61
Billings Deaconess Hosp.	Billings	84	1,527,038.01	450,000.00	Completed
Holy Family Hosp.	St. Ignatius	20	714,696.07	132,860.40 341,139.52 1-II	Contracts Awarded 9/13/61
		O. B. Dept. Remodeling			
St. Vincent Hosp.	Billings		266,450.08	106,580.03	Contracts Awarded 6/22/61
Montana Deaconess Hosp.	Great Falls	183	3,261,926.90	1,099,526.00	Preparing Drwgs. & Spec.
Ruby Valley Hospital	Sheridan	9	160,000.00	61,000.00	Preparing Drwgs. & Spec.
			\$9,553,085.84	\$3,124,134.85 775,158.66 1-III	

* Indian Health Funds.

II. MEDICAL FACILITIES

Silver Bow General and Chronic Disease Hosp.	Butte	114	\$2,307,082.93	\$ 398,795.20	Completed
Cascade Co. Conv. Hospital	Great Falls	72	643,291.03	165,599.71	Completed
Poplar Community Hosp.	Poplar	20	202,698.16	80,570.57	Completed
Faith Lutheran Home	Wolf Point	39	515,292.70	145,694.00	Contracts Awarded 4/21/61
Miles City Nurs. Home	Miles City	50	185,505.24	187,497.36	Contracts Awarded 6/30/61
Holy Family Hospital	St. Ignatius	10	201,015.33	80,406.13	Contracts Awarded 9/13/61
Montana Deaconess Hosp.	Great Falls	108	119,875.00	167,950.00 (NH)*	Preparing Drwgs. & Spec.
			255,018.00	102,008.00 (D&T)**	Preparing Drwgs. & Spec.
			\$5,029,778.39	\$1,328,520.97	

* Nursing Home.

** Diagnostic and Treatment.

PART II. GENERAL SERVICES

Part II of this Report includes the information from those sections of the Board's Organization which are not limited to any one of the PUBLIC HEALTH PROGRAMS reviewed in Part I.

It includes activities in **Civil Defense, Legislation, and Local Health Services**, with a brief review of activities in the local **full time Health Departments** and the Board's **Mental Health Unit**.

Also included are reports of those Divisions which give services to the Programs described in Part I. This section provides information on activities of these "Service Divisions" which have not been reported in Part I. These "Service Divisions" are: **Public Health Education, Public Health Nursing, Microbiology Laboratory and Records and Statistics**.

CIVIL DEFENSE

The Montana State Board of Health would have vast responsibilities if any major disaster occurred. These responsibilities are outlined in the **Montana Operations Survival Plans**.

EMERGENCY HOSPITALS

One of the Civil Defense responsibilities currently carried on by the SBH staff is the placement and maintenance of civil defense emergency hospitals. Ten such hospitals have been placed in Kalispell, Shelby, Malta, Lewistown, Helena, Warm Springs, Dillon, Bozeman, Billings, and Miles City. These are complete hospitals similar to field hospitals used by the military and can accommodate up to 200 beds. They were originally planned to be used for a 3 to 4 day operation. A revised plan now calls for preparations for a 30 day operation. This necessitates the need for enlarged storage space since refrigeration needs will be increased as well as total supplies.

Inventories are made periodically to make sure that the equipment and materials are ready for use if it becomes necessary to put the hospitals into operation. Some of the drugs contained in these hospital units have expiration dates and have to be replaced from time to time.

In addition to the 10 emergency hospitals, there is also one placed in Missoula which is a training unit. It is identical to the other hospital units and is made available to communities for the staff to learn how to set up and use the hospital. One such training program was held in June 1962 and others are planned for the future.

MEDICAL SELF-HELP TRAINING

In the event of a nuclear attack, there will be persons who will be isolated for periods of time for as long as two weeks. It is probable that they will not have the services of a physician during this time.

To meet this emergency should it occur, the Federal Civil Defense Administration, the American Medical Association and the U. S. Public Health Service developed a plan. A course was designed and prepared to train families to take care of their medical needs during this period. It differs from "First Aid" in that the latter is designed to give help "until the doctor arrives" while the Medical Self-Help Training Program teaches what a family can do without a doctor.

The course has twelve lessons covering subjects ranging from "principles of protection against radioactive fallout" to "how to deliver a baby". The national goal is to teach the course to one person, 17 years of age or over, in every family.

In December 1961, Governor Nutter appointed a committee to recommend how such a program should best be organized in Montana. The executive officer of the SBH is chairman of this Committee. One of the Committee's recommendations was that the 1962 year be a trial period during which time the program would be tested and evaluated and procedures established. It was further recommended that a few communities around the State be selected to participate in these pilot programs.

The health educators on the SBH staff were appointed by the executive officer to organize the program in the selected communities. One of them was appointed to act as the liaison for the entire Medical Self-Help program.

PROGRAM LIMITED

The Civil Defense activities of the Board, as ongoing programs, are limited by the fact that there is no personnel, nor funds to employ personnel, or to pay for travel and other expenses. The activities in Civil Defense that are being carried on are only those which can be scheduled by the staff along with other public health assignments.

LEGISLATION

One of the long felt needs in public health legislation was met by the 1961 legislature when a bill was passed which provides for **SBH approval of water and sewage facilities in subdivisions.**

This bill states "the legislative assembly has determined that the health and safety of Montana citizens is being endangered by drainage from cesspools, septic tanks, privies, water closets, and other sources of polluting matter, by liquid rising to the ground surface creating nuisances and seeping into drinking water supplies obtained from wells, springs, streams, lakes, and ponds." The law was passed to control this hazard.

If the Board's approval is not shown when the plat for a subdivision is submitted for recording it is necessary for the county clerk and recorder to place on the plat a "sanitary restriction." This restriction must be removed by the subdivider or builder by obtaining approval for water and sewer facilities from the SBH before any building or any shelter requiring water or sewer facilities can be constructed.

A subdivision is defined in the law as any tract of land which is divided into five or more parcels, any parcel of which is less than five acres in size along an existing or proposed street, highway, easement or right-of-way for sale, rent, or lease, as residential lots or residential building plats which are described by reference to a map or survey of the property or by any other method of description.

Those subdivisions that will utilize public water and sewer facilities still must meet the requirements under prior existing laws and regulations relating to such facilities. Such facilities must be approved by the Board of Health and have been a responsibility of the Board since 1907.

Following the enactment of this law, the Board adopted regulations to guide subdividers and the Board's staff in carrying out the intent of this law.

LOCAL HEALTH SERVICES

GENERAL

THEN . . .

The plea for improved local health services was made as early as 1914. The State Board of Health Biennial Report for 1913 and 1914 states: "If it were possible to divide the State into districts and have a health officer appointed for each district, who would devote his whole time to health work, the efficiency of this department would be greatly increased."

NOW . . .

In almost 50 years since this proposal was first made there has been little progress in attaining this goal. As of September 1, 1962 there will be 27.9% of the population of the State covered with full time health departments. There are only two counties—Cascade and Gallatin that have provided these services continuously since they were established in 1920 and 1930 respectively. Some others have come and gone, and some reactivated more than once. A resume of full time health departments in Montana is as follows:

FULL TIME HEALTH DEPARTMENTS

FULL TIME HEALTH DEPARTMENT SUMMARY

Now Active	First Established	Discontinued	Reactivated
Cascade	1920	—	Continuous Operation
Gallatin	1930	—	Continuous Operation
Missoula	1921	1947-51 1956-61	Reactivated 1961
Lewis & Clark	1921	1935-37 1947-62	To be reactivated as of September 1, 1962
P. H. Dist. 1 Big Horn & Rosebud Counties & Cheyenne & Crow Indian Reservations	1952	—	Continuous Operation

Counties which had full time Health Departments for a few years, but do not have now, are: Yellowstone, 1917-22, Fergus, 1941-43; P.H. Dist. 2, (Lake and Sanders, and the Flathead Indian Reservation) 1955-62.

As of September 1, 1962 there will be a slight rise in the percentage of the population covered by full time health departments when compared with the last biennium. This is a rise from 20.1% to 27.9% as based on the 1960 census.

This rise came about through the reestablishment of the departments in Missoula and Lewis and Clark Counties. Missoula was reestablished in 1961 and Lewis and Clark will be reestablished on September 1, 1962.

This rise would have been higher had not Public Health District 2 been discontinued on June 30, 1962.

During the biennium the basic public health activities have been carried on in each of the departments. Reports of activities are available from these departments.

In addition to the regular services a few of the new methods for attacking public health problems are underway and are briefly described in this report.

FIELD EXPERIENCE IN PUBLIC HEALTH NURSING

The field experience for the public health nursing program of Montana State College, as described in this report on page 60, was continued in the Gallatin City-County Health Department and the Cascade City-County Health Department.

OUT-OF-HOSPITAL NURSING SERVICE

An Out-of-Hospital Public Health Nursing Service Program was initiated in the Missoula and Gallatin City-County Departments. This program is being developed on a fee-for-service plan and was introduced in Montana for the first time in the spring and summer of 1962. This program is explained in more detail on pages 26 and 61 of this report.

HEALTH APPRAISAL CONFERENCES

The Missoula Health Department also introduced, for the first time, a series of "Health Appraisal Conferences" for all pre-school children in the county area who did not otherwise have medical supervision. Approximately twenty-five such conferences were held in the 1961-1962 fiscal year. Each conference had an average attendance of twenty-five children. The children were seen by appointment and given a physical

examination and necessary immunizations. Each conference was staffed by the health officer and a public health nurse.

When medical and dental problems were discovered the parents were urged to take their children to the family physician or dentist. About 12% of the children seen at the conference needed further examinations. The public health nurses made home visits to counsel the family and if necessary to help them arrange for the needed care.

The Missoula Health Department also re-assumed its role as an information and referral center for alcoholism patients and their families.

In the Cascade City-County Health Department, a Mental Health Project was initiated with Federal funds. The purpose of this project is to explore the ways in which health departments can provide mental health services. These services are aimed to supplement services already being provided by mental hygiene clinics, private psychiatrists, and the State Hospital.

The project is based upon the philosophy of Paul Lemkau, M.D., professor of community mental health at Johns Hopkins University when he says, "the Public Health Nurse is the most skilled person we have in putting backbone into the home".

Although the public health nurses have had a long-standing practice of dealing with the problems of mental health, it is now possible for them to feel more competent in this field when they are working in an organized mental health program with the availability of consultants in medicine, psychiatry, psychology and social work.

The 1961 annual report of the department states that these public health nurses made 736 home visits in mental health and they have participated in 713 group conferences or given information relating to 273 cases. This is a five year project and from it helpful guides for other areas of the State and areas in other States are anticipated.

Another activity of general interest, which has not been done before in Montana, was a financial analysis carried out in the Cascade Department. An attempt was made to place a money value on those services for which there is a comparable fee schedule for services purchasable from private sources.

These services were appraised at the total value of \$280,181.00 for 1961, while the department's operating budget was only \$153,550.00.

In addition these services, upon which a dollar sign could be attached, **were less than half of the services rendered by the staff.** This study shows that public health is not only purchasable but that certain community services are best rendered by community efforts.

PUBLIC HEALTH APPROACH TO INDIAN HEALTH PROBLEMS

Efforts to raise the health status of the Indian population on the Flathead, Cheyenne and Crow reservations continued through Public Health Districts 1 and 2. This was a cooperative effort between the U.S. Public Health Service, the State Board of Health and the counties of Big Horn and Rosebud, Lake and Sanders.

The infant death rate is one of the measures used in public health to note progress. A comparison of death rates is not always too meaningful in Montana counties because of the small populations involved. However, a review of the infant death rate for Public Health District 2 for a number of years—1952 to 1961 shows there is a definite trend. This rate has dropped from 53.4 per 1,000 live births in 1952 to 25.3 in 1961. Whereas in Public Health District 1, the rate fluctuated between 1952 and 1956; between 1956 and 1958 it dropped from 57.7 to 34.8 and has risen slightly each year since to 41.7 in 1961.

ALCOHOLISM INFORMATION AND REFERRAL CENTER

MENTAL HEALTH PROJECT

MONEY VALUE OF PUBLIC HEALTH SERVICES



The Public Address System in these Modern Days Replaces the Smoke Signals and the "Criers" of the Olden Days. The Gentleman pictured above is Announcing Clinics for the Immunization of the Reservation People Against Typhoid Fever.



Sanitarian John Lozean, left, and Well Driller Emmett O'Keefe are pictured above While They Make Preparations to Test Pump a Well. This Well is at the Home of a Flathead Indian in Arlee.



Everett H. Lindstrom, M.D., Helena, Chairman of the Lewis & Clark County Board of Health and Henry Kassel, M.D., Denver, PHS, Discuss Survey Plans at Lunch. Dr. Kassel is the Survey Team Chief. Dr. Lindstrom Served as the Overall Citizens Committee Chairman and is the President of the Montana Medical Association.



Lewis & Clark Citizens Responded Enthusiastically and have Expressed a Great Deal of Interest in the Survey.

It is most regrettable that Public Health District 2 ceased to exist when Lake County withdrew June 30, 1962. The public health services of the Indian population on the Flathead reservation will be carried out by the Public Health Service; Sanders County will be able to provide only one public health nurse and Lake County to-date has made no announcement of plans.

The diseases caused by unsanitary conditions continue to harass the Reservation segment of the State's population, particularly in Public Health District 1.

With the new sanitation facilities program of the Public Health Service now underway it is expected that typhoid and the dysenteries will be re-

duced. Without safe water supplies and adequate sewage disposal, these health problems cannot be reduced.

MULTI-PHASIC SCREENING

In Public Health District 2, a multi-phasic screening program was carried out during the last part of the report period. The health officer assisted by the public health nurses screened the population to detect suspected diabetes and high blood pressure. Tests were given to measure blood cholesterol, and tuberculin skin tests were given. Syphilis serology was done on those persons making a request and overweight conditions were also noted.

The data had not been analyzed at the close of the biennium.

PUBLIC HEALTH SURVEY

As a result of a public health survey, with a citizen's committee formed to assist and help to interpret the findings, the Lewis and Clark Full Time Health Department will be reestablished on September 1, 1962.

At the request of the Lewis and Clark County Board of Health, the U.S. Public Health Service is conducting a survey to determine the status of public health in the county. This request was made through the State Board of Health and a health educator was assigned to assist the Public Health Service staff.

The Public Health Service staff are members of the Region VIII office in Denver. Some further assistance was provided from the staff of the Communicable Disease Center in Atlanta.

The State Board of Health health educator's role was to provide staff services to the Public Health Service personnel and to organize and work with a local Citizens' Committee which was a part of the overall plan.

The survey was conducted in the areas of: general sanitation, child health, communicable disease control, chronic disease, vital statistics, dental health, accident prevention, water and sewage. Also studied was the existing operational structure of the public health services now being provided.



PHS Statisticians Prepare Volunteers for House-to-House Inquiry to Determine Immunization Status.

Before a survey was made, the Public Health Service staff briefed the subcommittee on recognized public health standards and procedures in the area to be surveyed. In some instances the subcommittee members accompanied the Public Health Service staff in making inspections. In some areas they assumed responsibility in gathering facts such as in determining the immunization status and the operational structure of current services in public health. This was done in several areas of the county by canvassing the homes.

As the survey was completed in the program areas, the findings were reported to the subcommittees and a "Steering Committee" of the Citizens' Committee.

The Public Health Service reports were studied and compared to good public health standards and the unmet needs were determined. Priorities were selected and recommendations adopted.

From time to time State Board of Health staff members were called in to provide information relative to morbidity, mortality, laws, rules and regulations.

At other times there was joint discussion between the three levels of government public health agencies in determining State and local relationships.

It is anticipated that the survey will be completed early in the next biennium.

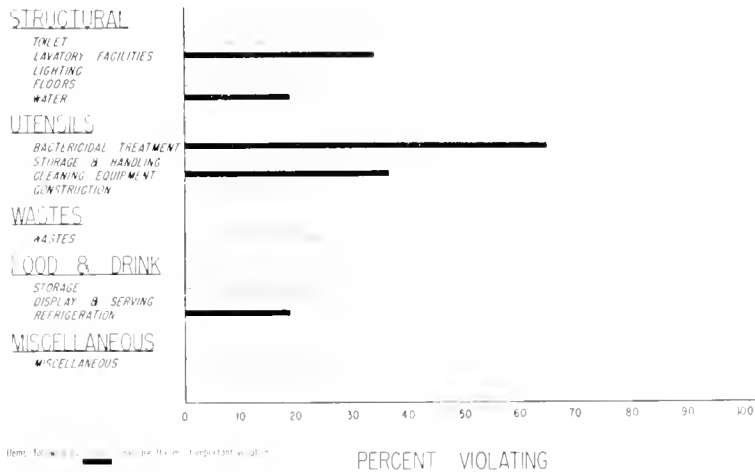
Without waiting for the completion of the survey the committee recommended the reestablishment of the full time Health Department. Subsequently action was taken by the City of Helena and the Lewis and Clark County Commissioners to make this possible.

When the survey is completed, the Public Health Service results and the recommendations of the subcommittees will be presented to the total membership of the Citizen's Committee. After further study, it is expected that priorities will be selected and recommendations will be made to the City-County Board of Health for its consideration and action.

This has been an excellent example of the professional public health, medical, dental, sanitation and other specialists working together with citizens toward improved public health in the county. It is also an example of local, State and Federal cooperation.

COMPLIANCE with Items of SANITATION Eating & Drinking Establishments

LEWIS & CLARK COUNTY JULY, 1961



Findings in Survey of "Eating & Drinking Establishments."



The PHS Survey Chief, Lewis & Clark County Health Officer and the SBH Disease Control Officer Discuss Areas of Mutual Interest in Chronic Disease Control.



An Annual Conference is Held for Staff Members of the State Hospital and SBH Who are Participating in the Project.

PUBLIC HEALTH NURSING SERVICES

AREA OF INTENSIFIED SERVICES

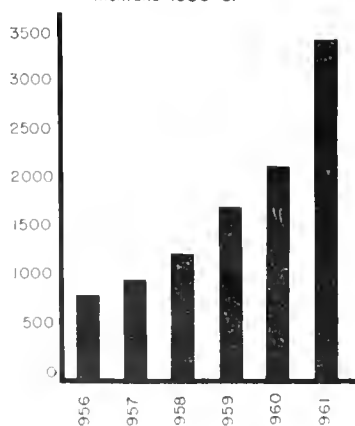
The impact of this project on the statewide public health nursing services in the interest of mental health is shown by the fact that the number of visits has increased from 2,026 during the first year of the project to 3,439 the second year. This is an increase of almost 70% which is most gratifying.

A recent review was made of the services in the counties with intensified services. These services were provided in the beginning of the project to patients referred from the State Hospital as they were released. It also included services to the families of these patients in accordance with their health needs.

As the project progressed public health nursing services to families were provided when admission of a member to the Montana State Hospital is being considered or when a member is at home under the care of a private physician.

The community education program has been directed to the prevention of mental illness.

PUBLIC HEALTH NURSING VISITS TO THE MENTALLY ILL
Montana 1956-61



UNORGANIZED AREAS

In counties without full time health departments the status of public health nursing services is described on pages 59-60 of this report and sanitarian services on pages 37-39.

FAMILY HEALTH SERVICES FOR MENTALLY ILL

The second year of the project, "Family Health Services for the Mentally Ill," progressed from the planning stage to a full-scale program. The purpose of this project is to demonstrate continuity of care to the mentally ill. It was developed cooperatively with the State Hospital at Warm Springs and the State Board of Health.

The project is being carried out through the provision of public health nursing services and community health education in mental health. It includes the 26 counties that have generalized public health nursing services and two counties, Silver Bow and Deer Lodge, that were selected for intensified services.



Participating in the Board's Staff Evaluation of the "Family Health Services for the Mentally Ill" are Representatives of the U.S. Public Health Service's Division of Mental Health from the Region VIII Office in Denver.

ROLE OF THE PRIVATE PHYSICIAN

Close working relationships between the public health nurses and private physicians have been established since the physician is the key to the continued treatment of the post-hospitalized patient.

Besides his primary role in the medical management of the patients under his care, the private physician becomes a team member to strengthen the supportive services of the public health nurse. Without these medical services, the public health nurse cannot work as successfully with these patients. The private physician relates to the State Hospital physicians, other physicians, law enforcement officers and commitment personnel and takes part in meeting the psychiatric needs of the patients.

The private physicians are also a force in the community in the development of services for and promoting understanding of mental illness. They also serve as resource persons in community education groups.

The program review for the area of intensified services indicates that the physicians feel the public health nursing service is of help in the continued medical treatment of the ex-hospitalized mental patients. The physicians who have had these patients under care have expressed interest in the continuation of the project. Some of them state that they have other patients whom they believe could benefit from this service.

There is a growing awareness of the professional persons in the community of the need for the utilization of existing community services in the rehabilitation of the mentally ill persons and their families.



The Public Health Nurse Assists Patient to Adjust to Home and Community on Return from Hospital.

EVALUATION UNDERWAY

One of the important facets of the project was its evaluation with the pinpointing of data that will be of value in an on-going program in the State and that will be helpful in other States.

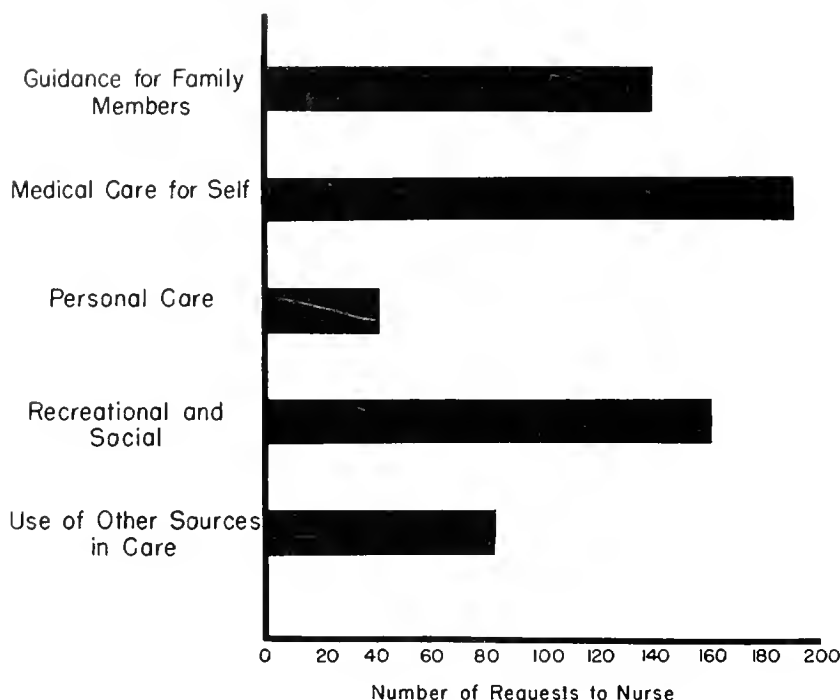
Careful records are being kept on the patient's progress, his needs, the reactions of his family, his adjustment to life in the community, the services that he requests from the public health nurse and numerous other details.

A preliminary review of some of the findings, although not complete, reveals some interesting information. The public health nurses report that in attempting to identify differences in giving services to the mentally ill patients as compared to other patients, they have found no "magic

formula." The same techniques used for other patients are utilized—**only the degree is intensified.**

The services requested of the nurses have been grouped as follows:

SUGGESTIONS REQUESTED BY PATIENTS



1. **Medical Care for Self** included care by private physicians and a need for medications, following recommendations of either private physician or psychiatrist from the Hospital.
2. **Personal Care** included such items as cleanliness, appearance and diet.
3. **Guidance for Family Members** included medical care for other family members, prevention of accidents, understanding of patient's illness and hospitalization, health guidance for family members, anticipatory guidance in relation to growth and development of children in the family.
4. **Use of Community Resources** included explanation of referral to available resources in the community such as: Department of Public Welfare, Vocational Rehabilitation, Veterans Welfare, Employment Service, Mental Hygiene Clinics and Vocational Education Departments, Social Security, school authorities, legal and protective departments and religious authorities.

5. **Recreational and Social Activities** involved all the various organized recreational and social activities including church functions as well as encouragement to take walks, rides, visit with neighbors and friends and to develop hobbies.

The requests in each of these categories are summarized on the graph above.

As noted on the graph, the patient's concerns are chiefly in the area of **medical care for self**, with **recreational and social**, **guidance to family members**, **use of community resources** and **personal care**, in that order.

SUCCESS OF SERVICES

From the patient's behavior and ability to adjust to the return to the community from the hospital during the period under study, the nurses feel that their services were successful for more than half of the patients in the sample.

In comparing the successful with the unsuccessful, the nurses found that those in the successful group were able to discriminate and to select out the most pertinent suggestions offered by the nurse in respect to "Guidance to Family Members" and "Medical Care for Self". The unsuccessful group passively accepted the nurse's suggestions in an uncritical manner.

They found that the successful patients accept and follow the suggestions offered by the nurse within the area of "Personal Care" significantly more than the unsuccessful patients.

COMMUNITY EDUCATION

The health education component of this program is proving to be of interest to the citizens and they are actively participating in the educational sessions. Community education groups have been formed in Silver Bow, Deer Lodge and Flathead Counties.

One of the most rewarding aspects is the fact that the educational programs are extending beyond these groups organized specifically for mental health education. Community groups organized for other purposes are also being reached in mental health education. Some of these other groups are Parent-Teacher Associations, civic and service clubs, Ministerial Associations and Church groups, Sheriff's Posse, Unions and School faculty groups.

The educational program has been almost entirely limited to the prevention of mental illness. This limitation came about through the citizens' choice and was a rather surprising element. In previous experience in the control of other disease categories, the interest has been chiefly focused on the disease and its treatment rather than on prevention. It is most encouraging to note this interest in prevention.

The purpose of the educational component is to assist in developing an understanding of mental health and mental illness. It also aims to assist communities develop a community climate conducive to assist the mentally ill patient readjust to his family and community on his return from the hospital.

An integral part of the role of the health educator is to provide a means of extending services of other professional workers to coordinate the health education aspects of the program; to carry out many of the educational activities; and to assume responsibility for the community organization needed.

Encouraging statements made by some of the persons participating in the educational program indicate that they are applying mental health principles to their own lives and to their roles as parents, relatives and friends of the mentally ill.

Recently there is more interest shown in determining what community resources are available to help the mentally ill.

The educational program has included the presentation of scientific information through lectures by resource persons, the distribution of literature and the use of films. However, the educational method utilized to the greatest degree is "group discussion". (Not to be confused with group therapy.) This provides the health educator an opportunity to relate to people in a non-authoritative role without being expected to provide "answers". This, together with skills in group work, enables her to work in a non-directive manner, permitting the free exchange of ideas. This usually results in the development of new understandings and often in changing attitudes so essential in mental health.



Pictured above is the Anaconda Program Planning Committee for Health Education Activities in Mental Health.

Requests for educational programs in mental health are coming in increasing numbers from other areas of the State.

The problems that have been encountered in the project so far have been in the area of recruitment. It was not until January of 1962 that efforts to recruit a supervisor for the Butte-Anaconda office were successful. In December, the public health nursing consultant in mental health resigned and a replacement for her has not yet been found.

The initial stages of the program were slow in developing and there was unavoidable delay in the initiation of the health education aspects of the program, which is usually characteristic of any new program.

There has not been enough time to undertake all the activities in all phases of the project, nor has the project been underway long enough to complete the analysis of the data which has been collected. More health education services are needed than can be given by one health educator.

Professional persons and citizens who have participated in this project indicate that there are many contributions being made. The project is proving that there is a real need for the "continuity of care" for the mentally ill and their families.

PUBLIC HEALTH EDUCATION

THEN . . .

The distribution of reports, bulletins and occasional lectures were the only health education methods in the early days of public health in Montana. This was how the 1901 directive was carried out. This directive in the law states that the Board "shall gather information in respect to all these (public health) matters as it may deem proper for distribution among and use by the people."

NOW . . .

Citizen participation through community organization, with study committees and group discussions, has added materially to the health education effort.

During the biennium, continuing health education services have been provided to most of the Board's programs. These include assistance in the educational aspects of programs to both State and local public health staffs and direct health education services in local communities.

This division has provided services for statewide meetings on Nursing Homes, Rehabilitation, Cardiac Nursing, Alcoholism and motivation for use of the "Guide for the School Health Program."

Small Group Discussion in an Informal Atmosphere Contributes to Improved Understanding.



COMMUNITY ORGANIZATION

The educational program on the need for a sewage treatment facility carried out through community organization in Missoula was one of the most tangible demonstrations of success in the educational efforts during this biennium.

In the beginning the outlook was dismal since this work had to start by "picking up the pieces" from an inactive and discouraged group organized earlier for this purpose. Pessimism prevailed among the first



Health Education Staff Participate in Planning with Program Directors.

citizens contacted. As interest and the involvement of civic, professional and official persons grew, this program gathered momentum and resulted in the passing of a bond issue for the construction of this facility—long overdue.

Progress in the "Education for Parenthood Program" is evident, and the new facet, "the program for high school boys" has been the contribution of this division. It is explained in this report on page 8.

Other activities in the Child Health Program have included the motivation for use of the "Guide for the School Health Program" described on page 8 of this publication.

Concentrated health education services among the Indian people on the Cheyenne and Crow Reservations included in Public Health District 1 and the Flathead Indians in Public Health District 2 have continued. Because of the many health problems in the Indian population, concentrated health education services were planned by the USPHS Indian Health Division and the SBH as a part of the two district health department activities.

The health educator working in Public Health District 2 completed a booklet on "clues" relating to "Indian Attitudes, Beliefs, Customs, Culture . . . as they affect Public Health." A similar report for Public Health District 1 was completed during the last biennium.

These health educators find that the understandings and interest in health among the Indians is just as varied as it is among non-Indian groups although there are probably more Indians with a general understanding of "health" compared to that of the non-Indian population more than 50 years ago.

The Indian of today is living in a changing culture with a mixture of Indian and the white man's tradition and customs—babies may wear water-proof panties and Indian moccasins, some of the men wear long braids and cowboy boots. Their language may be all Indian, all English, or a mixture of both. Some select Indian medicine and call the medicine man to ward off certain illness. While for another illness the same person may seek a physician and go to a hospital for care.

Working with these people, requiring patience and time, is interesting. The Indians, like the rest of the population, come to meetings, enjoy health films and if the groups are small, many of them participate in group discussions on health matters.

TWO-WAY COMMUNICATION

Small group discussions, in addition to their educational value in creating understanding, positive attitudes and motivation for action, also serve in helping to determine needs in public health matters.

Until formal lectures given by "experts" were supplemented by "listening," not much was known about what the people really knew and what the barriers were to accepting new ideas or what the obstacles were to applying good health practices. As an illustration of the contribution the discussion method can make in finding the health needs, the Rheumatic Fever Program for Montana's College Freshmen is a good example. Some of the findings from this program, described on page 27 in this report, are summarized as follows:

- 1) the information previously given these students about the need to continue on prophylactic drugs to prevent recurrent attacks of rheumatic fever was either never understood or there was not sufficient motivation.
- 2) there is an urgent need to replace students' doubts and fears with reassurance.
- 3) there was a general lack of concern among the students for attention to their personal health unless they were ill.
- 4) too many had never been seen by a physician since their rheumatic fever attack (which may have been several years ago) until they had their recent college physical examinations.

- 5) the students' attitudes are of real concern to professional health workers and educators. "All I want to do is to forget I ever had the disease"—a head-in-sand attitude was frequently expressed; the students were reticent to admit they had any physical inadequacies or that they were in any way "different"; some did not want to participate in any program that did not give them "status" among their contemporaries; a few felt they know all they need to know about rheumatic fever and rheumatic heart disease; several had made the decision themselves that they had been on drug therapy long enough. For many a high priority of their time was given to social or academic activities and they had little or none left to find out more about their own health protection.

These negative "clues" have had a positive effect—one of which was to motivate the practicing physicians, the public health and college health service staffs to improve their educational efforts. "Having been told, does not necessarily mean that the individual has learned" was demonstrated again and again. The professional health personnel learned that they have been taking too much for granted.

Improved educational efforts also means there is a need for continuing educational programs to enable adults to keep abreast of the new discoveries made in the medical and health sciences. New information to be useful must be applied.

The small group discussion technique will be used as a part of the Cancer Control Program in a few selected areas during the next biennium. The purpose of this particular educational program will be to try to motivate all women over 20 years of age to have a cervical examination in their physician's office. Death from cervical cancer can be prevented if detected and treated early.

ALCOHOLISM EDUCATION

Attitudes in the controversial subject of "alcoholism" are also changing. This is a reflection of the efforts of the educational activities in this program. The Board's staff has had valued assistance from its Narcotic and Alcoholism Advisory Committee during the biennium.

There is now a much wider understanding of the "multiplicity" of the problems of alcoholism and there is an ever widening realization that "something must be done" to meet these problems. There is a need for continued study since there are many approaches, and since many persons have to be involved if communities are to take the necessary action to meet the problem of alcoholism.

The Second Report: "Alcoholism in Montana—1960" was prepared by the Advisory Committee with staff assistance. Its study and recommendations were requested by Senate Joint Resolution No. 3, 36th Mon-



Pictured are Discussion Group Leaders Reporting at the Third Conference on Alcoholism in Business and the Community in Missoula.

tana Legislative Assembly, 1959. The report was accepted by the Board and forwarded to the Legislature. However, no legislative action has been taken to date.

Health education activities in this program were reduced due to a shortage of funds, but a "Third Conference on Alcoholism in Industry and the Community" was successfully held. A local conference on alcoholism was also held at Sidney during the biennium. Health education assistance to the Great Falls Committee on Alcoholism has continued.

OTHER ACTIVITIES

Health Education participation in the mental health project is in its third year and citizen interest is extremely high in the counties where work has been done. This project is described on pages 52 and 53 of this report. In dental health education activities have been directed chiefly to parents, and teachers in service and in training.

The assignment of a health educator to assist in the community aspects of a public health survey in Lewis and Clark County is paying dividends. This survey is described on pages 48 and 49 of this report.

With the initiation of the Board's chronic disease and out-of-hospital program, assistance is being given in Missoula County. This experience will be helpful in other areas of the State when such a program is developed elsewhere.

The training of instructors in the Civil Defense Medical Self-Help Program has been planned and will be initiated early in the next biennium under health educator leadership.

STAFF SAFETY COMMITTEE

Without an organized "safety program," efforts are directed to integrating the aspects of safety in other public health programs by a staff committee. This committee is composed of staff members from several of the Board's programs.

During the biennium, this committee studied the hazards of the increased use of trampolines, and recommended safety precautions for their use. The Board adopted these recommendations as a guide for the prevention of accidents which can so easily occur while persons are engaged in this very popular activity.

The suggestions for the safe operation of these devices were developed by the committee with the cooperation of the trampoline operators and the athletic coaches of the State.

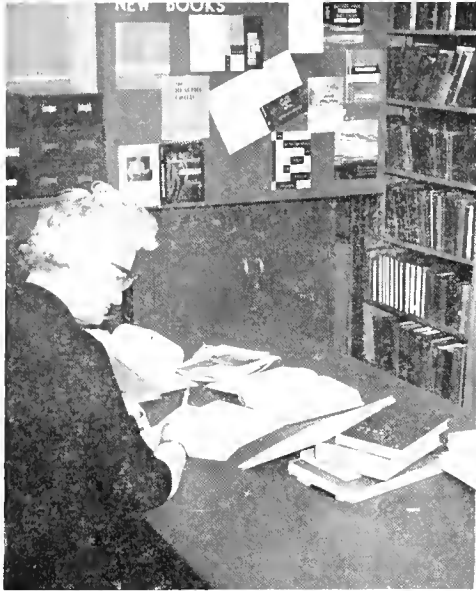
A second successful drive was carried on by the committee to promote the installation of seat belts in the personal cars of members new on the staff since the last drive.

The committee has promoted the educational program on mouth-to-mouth or rescue breathing in resuscitation.

Information was released on the hazards involved in "drinking birds"—a popular novelty. These "birds" contain methyl chloride which has an extremely low boiling point. Should the "bird" be broken the methyl chloride assumes a vapour state so rapidly that asphyxia may result.

TRAINING

Field training for Public Health Education students in University Schools of Public Health was provided during the spring and summer



SBH Library Provides Resource Material for Professional Staff as well as for Montana Citizens.

LIBRARY ACTIVITIES INCLUDING VISUAL EDUCATION MATERIALS

DISTRIBUTION OF HEALTH RECORDS

of 1961. Two students from the California School at Berkeley and one from the University of Minnesota were provided with this training.

Health Education services were provided for staff in-service training for two sessions of an Epidemiology Workshop and for monthly staff seminars.

Orientation programs for new staff members were held three or four times each of the two years; orientation programs for public health nursing students from Montana State College are held quarterly. Various other groups—college, high school or interested citizens—attend short programs to learn about the Board's services. The orientation programs are carried out by staff members on each of the Board's programs.

PREPARATION OF WRITTEN MATERIALS

The 30th Biennial Report was edited and distributed and the preparation of the 31st report was started.

Treasure State Health, the Board's official publication, was continued in monthly issues with approximately 54,000 copies distributed during the biennium.

Assistance was given the Montana Congress of Parents and Teachers in the preparation and use of a **P.T.A. Health Guide and Report Form**. These materials are under revision for the 1962-63 school year.

A section of the "**Guide for the School Health Program**" on Public Health Careers was published separately and used along with a **Career Exhibit** at several educational meetings.

The division of environmental sanitation was assisted in the preparation of a pamphlet "**Safety in the Kitchen.**"

Public Health articles prepared for other publications were:

"Board of Health—60 Years Old" **Montana Health**, Helena, Montana, Sept.-Oct. 1961, Part I; Nov.-Dec. 1961, Part II.

"Montana Develops Pattern for Rural Areas in Team Approach for Cleft Lip-Cleft Palate Rehabilitation", **Montana Health**, Helena, Montana, Nov.-Dec. 1960.

"Health Education in the Montana State Board of Health" **Health Educators at Work**, University of North Carolina, School of Public Health, Chapel Hill, North Carolina, June 1962.

The Board has always maintained a library. There is a more urgent need for up-to-date scientific materials in this library than there is for Board of Health Libraries in many other States. In many other States there are medical and other scientific materials available from professional schools which do not exist in Montana.

During the biennium 178 new books were added to the library. As books are added a description of the books is sent out to interested persons who utilize the Board's library materials.

The film catalogue was revised and distributed and supplements are issued as new films are added. During the biennium the 149 films, 48 filmstrips, 7-35 mm slide sets were loaned 1,704 times and seen by approximately 30,310 persons. During the biennium 18 new films were added to the library.

A total of 15 new exhibits were prepared and displayed more than 50 times. Exhibits prepared during previous biennial periods were placed on display 12 times.

Photographs of Montana activities are taken by the staff and used as illustrations in materials. They are also used in the construction of visual aids.

Approximately 49,500 health pamphlets were distributed.

There were 52,278 cumulative health records, 42,069 health information blanks and 42,323 dental referral cards distributed to the schools of the State. The distribution of dental referral cards for preschool children totalled 2,700.

PUBLIC HEALTH NURSING

THEN . . .

Beginning in 1917 when public health nurses were first employed they were among the earliest public health workers to be specifically trained in public health practice. As early as 1919 there were 35 public health nurses employed in the State. Their efforts were concentrated on the reduction of maternal mortality and the control of communicable diseases among school children.

NOW . . .

There are now 100 public health nurses employed in Montana on the State and local levels. Program emphasis has changed with the improved health status of the citizenry and with changes in social trends. The "family," including its members in all age groups, is the focus of public health nursing services today.

P.H.N. RESPONSIBILITIES IN SBH PROGRAMS

The public health nursing division provides consultant staff for several of the Board's public health programs—maternal and child health, chronic disease, tuberculosis, cancer, heart disease and communicable disease control, mental and dental health.



There are Many Aids to Help Disabled Persons Carry Out Everyday Functions.

At the time public health nursing services were first started in local communities in Montana, the SBH was given the responsibility of their supervision by legislative action. This still continues with direct supervisory responsibilities in areas where there is no full time health department. In areas where there is a full time health department, consultation from the State staff is provided.

GENERAL POLICIES

In addition to these responsibilities, the Board's division of public health nursing is responsible for establishing overall standards and general policies in public health nursing practice; for the certification of public health nurses for employment; for recruitment; for in-service training and the encouragement of further academic training among the employed nurses. Another responsibility is to arrange in cooperation with the nursing instructors at Montana State College for field experience in public health nursing in Montana's counties.

During the biennium the revision of the job specifications in all categories of public health nursing have been completed. Plans were made in this revision to take into account the available personnel and the changing trends in public health nursing education while at the same time maintain high standards.

The public health nursing Manual has been replaced by a new edition. This new edition, in addition to giving general guides for public health nursing procedures, incorporates information needed by the local public health nurses on the SBH public health programs.

RECRUITMENT

Recruitment continues to be very difficult for both the local and State level positions. A supervisory position for Butte-Anaconda field office of the "Family Health Services for the Mentally Ill" was not filled until last January, the end of the project's second year. It has not been possible to fill the vacancy in the State mental health consultant position since it became vacant December 1961.

LOCAL PHN EMPLOYMENT

There has been little change during the last two years in the geographic areas where public health nursing services are provided. Musselshell County has been unable to fill its vacancy; and with the dissolution of Public Health District 2, Lake County is now without public health nursing services. It has not been possible to fill the new position established in Chouteau County. Cascade County has increased its staff from 16 to 18 public health nurses. The Out-of-Hospital Care Program has added two public health nurses to the Missoula City-County Health Department, one to Ravalli, and the half-time public health nursing position in Mineral County has been made a full time position.

TRAINING

The status of nurses with some academic preparation in public health has risen from 63% to 73% during the biennium. There are now 55% of the employed public health nurses who are fully qualified in public health nursing.

Accreditation of the baccalaureate program in nursing at Montana State College was accomplished in the past biennium. Nurses in this program are required to have public health nursing field experience. This has increased the demand for facilities in the State to provide for this experience. Until 1961 field training was provided only by the Gallatin and Cascade City-County Health Departments. In 1961 single students were placed in Public Health District 1 at Hardin and in Valley, Phillips and Hill counties.



Local Public Health Nurse Provides Student Experience in Public Health Nursing.

Evaluation of this student experience has resulted in the expansion of this field program to four additional counties in 1962. There have been two students placed in each of Rosebud, Glacier, Teton, and Blaine counties with Valley, Phillips and Hill counties providing experience for two students in 1962.

Reports from local areas indicate that there is a real interest in providing this educational opportunity for these students.

Other educational opportunities have been made available through short term courses sponsored jointly by the U. S. Public Health Service, Montana State College and the State Board of Health. These courses which have been geared to basic public health nursing practice have been attended by 27 public health nurses during the biennium.

The Western Interstate Commission on Higher Education has completed one series in its continuing education program for nurses in leadership positions. One of the public health nurses took advantage of the first series and eight additional public health nurses are enrolled for the next two years.

The SBH Nursing Consultant Participates as a Member of the Planning Committee for the WICHE Sponsored Continuing Education Program. This In-Service Education Program is one of the Available Resources for Professional Nurses in Montana.



—Photo Courtesy Montana State College

PIIN CONSULTANT ROLES

A rotation plan for the Board's nursing consultants with supervisory responsibilities as well as program assignments was instituted in 1961. This makes it possible to promote special programs in all areas of the State.

The State was divided into five geographical areas with the consultants assigned to Maternal and Child Health, Cancer, Heart, Communicable Disease and Mental Health participating. Nursing consultants assigned to the Nursing Home Project, Crippled Children's Services and Hospital Nursing are not a part of this rotating staff but function on a consultative basis statewide.

The five consultants assigned to geographic areas comprise a special committee for the planning of in-service education for the local public health nurses through area conferences.

Seven supervisors from local public health nursing staffs meet together on a regular basis with the director of Public Health Nursing to discuss their mutual problems and to facilitate the supervisory role to local health departments and the larger nursing staffs in the State.

PIIN VISITS

During this report period the local public health nursing visits have been increased by 2,500 visits. Nursing visits to the group "over 20 years of age" have increased by 6,000 visits or 10%. This indicates a trend in public health nursing toward meeting the needs of the aging population. Visits to cancer patients have doubled; there has been an increase of 1.7% to cardiac patients which brings these visits up to 4% of the total number of visits. Visits to the mentally ill have doubled during the biennium while visits to school-aged children, who are the healthiest segment of the population, have dropped.

IMPACT OF CHANGE ON P.H. NURSING

The Mental Health Project described on page 50 to page 53 has had a statewide impact. Services have increased and improved far beyond expectations. By filling a long felt need, the Out-of-Hospital Program described on page 26, although now limited to three counties, no doubt forewarns a future trend that will affect public health nursing statewide. Even with this program in operation only a few weeks, it is already evident that public health nursing has much to offer in helping to solve the ever growing problem of care for the chronically ill and aged.

Public Health Nurse Helps Guide Families on Road to Rehabilitation.



RECORDS AND STATISTICS

THEN . . .

After several methods in obtaining vital statistics for the State had failed, the secretary in 1905 "wrote to every undertaker, every merchant who sold coffins and to every man who made boxes to bury the dead in this State, whose address he could secure, and asked them to give him simple data regarding every dead body for which they had furnished coffins or boxes."

NOW . . .

Ever since 1907 deaths, fetal deaths, and births have been recorded. Also reported are marriages, divorces and annulments. Ancillary records such as legitimations, corrections, delayed birth certificates are also processed and filed. These are among the many records needed to manage, plan and evaluate public health programs relating to mortality, morbidity, natality and family formation.

STATISTICAL ACTIVITIES

In addition, the Division of Records & Statistics is concerned with the tabulation of other public health data obtained from public health nurse reporting, the cancer register, tuberculosis file and others.

The data which are tabulated are then analyzed to note statistical intelligence. For example, mortality data are constantly scrutinized to note changes in the incidence of disease so that appropriate action may be taken. There are many illustrations of the use made of these changes in the several graphs in this publication such as maternal and infant deaths, on page 5, tuberculosis cases and deaths on page 23 and cancer deaths on page 30.

STATISTICAL CONSULTATION

In addition to analyzing the data tabulated, statistical consultation is available to the State and local public health program directors. This makes it possible for them to carry on statistical operations of their own which are based on the sound principles that are necessary if the resulting data are to be most useful.

POPULATION CHANGES

The graph, page 63, shows the percentage change in Montana's population by age from the 1950 to the 1960 census.

It will be noted that there has been a large percentage gain in the age group 0-20 years and an even larger percentage gain in the group 65 years and over. On the other hand, several portions of the age group 20-64 years have actually lost population. When considered as a whole, there was practically no change in the 20-64 age group.

The portion of Montana's population in the "dependent" years has increased sharply while the population in the working or productive

years has remained the same. This means, of course, that those persons in the "working years" are required to support more persons in their "dependent" years. This has important implications for public health programs as well as for State government in general.

The graph on the left below shows that the ratio of the number of males per hundred females in Montana is declining. This ratio has decreased about five per decade since the 1930 census. If the present trend continues, it appears that the 1970 census will show, for the first time, that there are more females than males in the Montana population. This change in the sex composition of our population also has important public health aspects.

SPECIAL STUDIES

A review of data collected by the SBH shows that the incidence of out-of-wedlock births has almost doubled since 1953.

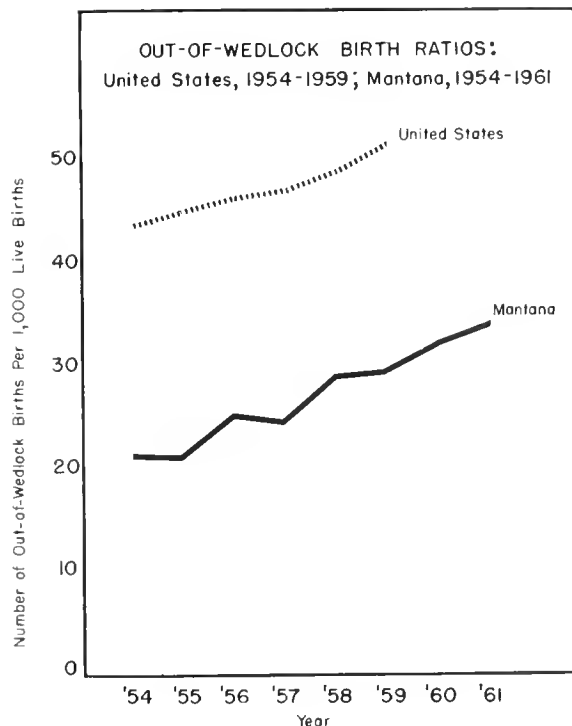
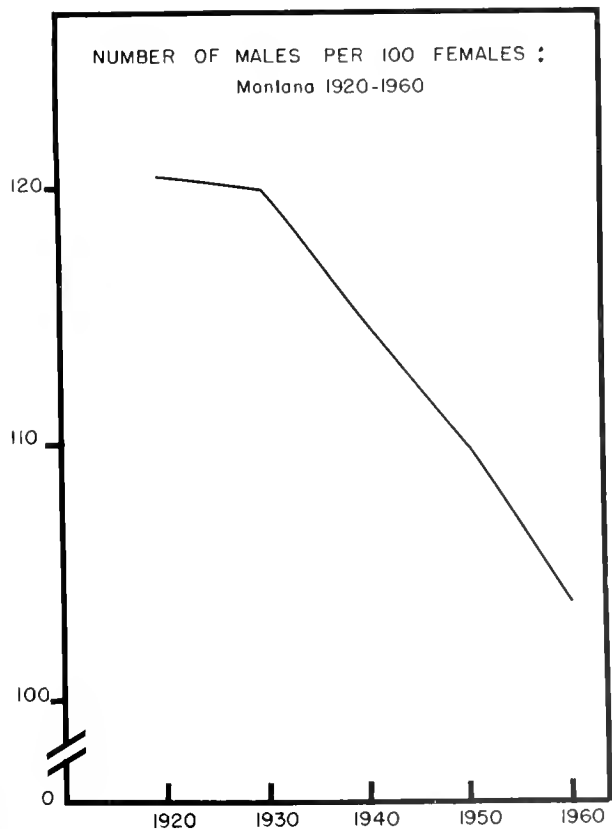
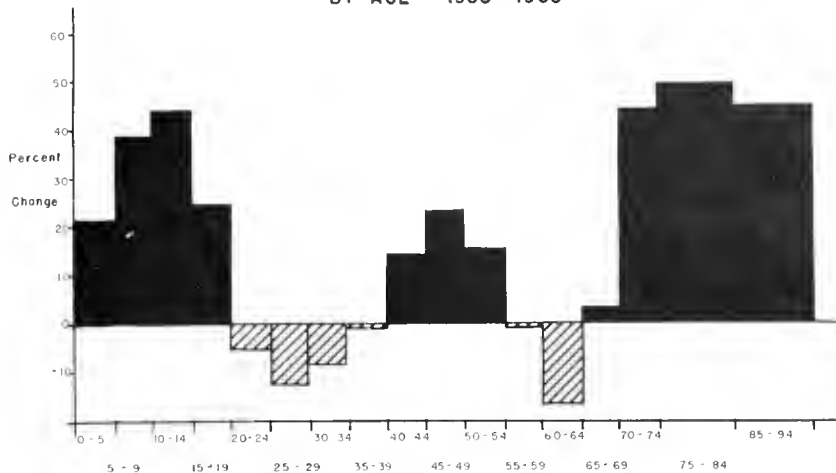
In that year there were 17.5 out-of-wedlock births per thousand live births. In 1961, the ratio was 34.5. The number of these births climbed from 291 in 1953 to 600 in 1961.

The graph on the right below shows the out-of-wedlock birth ratios for the United States and for Montana. It will be noted that while the ratios for Montana are considerably less than those for the United States, the Montana ratio climbed more rapidly over this period than did that for the nation. This may be seen clearly in the graph at the top of the next page.

This shows the relative change in the out-of-wedlock ratios for the State and nation. The base year is 1954. In 1959, the index for the nation

PERCENT CHANGES IN MONTANA'S POPULATION

BY AGE : 1950 - 1960



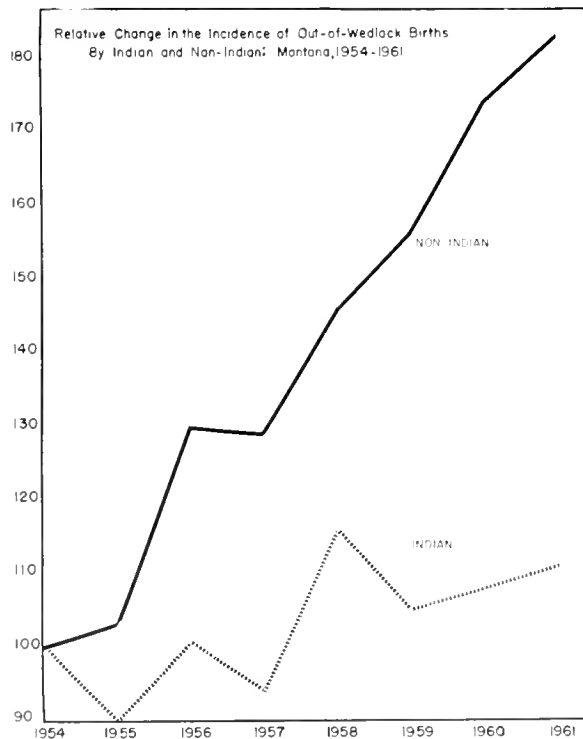
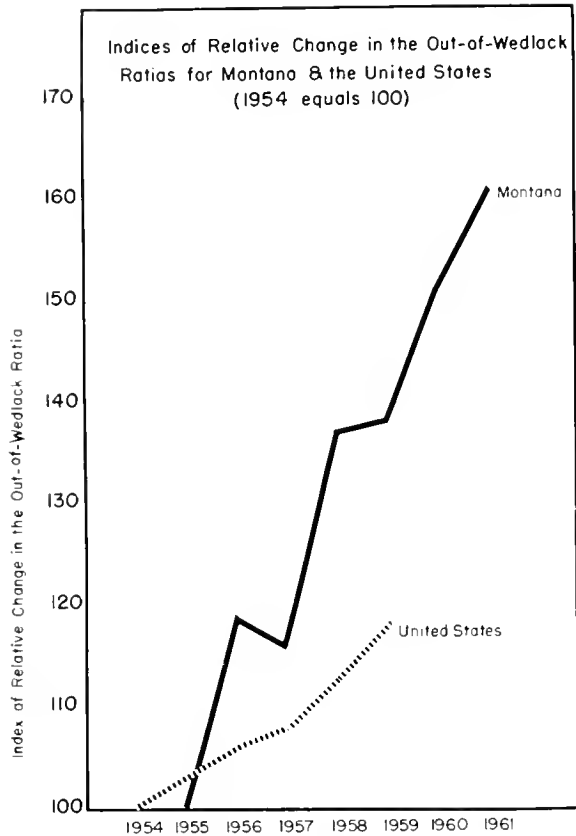
had risen to 118; while for the State it was up to 138. Data for the United States are not available for 1960 and 1961; however, for Montana the index continued to climb to 151 in 1960 and to 161 in 1961.

Analysis of the data on Montana out-of-wedlock births by race for the period 1954-1961 shows that the incidence for the Indian population is ten times as high as that for non-Indians. The ratio of out-of-wedlock births per thousand live births for Indians in this period is 181.3; for non-Indians the ratio is 17.5. This difference, however, does not explain the rather constant increase in the incidence of out-of-wedlock births during this period.

The lower chart shows the relative change in the incidence of out-of-wedlock births by Indian and non-Indian categories. 1954 is again the base year. It will be noted that the incidence of out-of-wedlock births for Indians was actually lower in 1955 (90) and 1957 (94) than it was during the base year.

In 1961, the ratio of out-of-wedlock births for Indians was 111 or 11% higher than the base year. The index for out-of-wedlock births for non-Indians increased every year except 1957. The trend is sharply upward in 1961, when the index stood at 183 or 83% higher than in 1954. The major contribution to the increased incidence of these births is occurring among non-Indians, even though the incidence of out-of-wedlock births continues to be much higher among the Indian population.

An analysis of the age distribution of out-of-wedlock births by race of mother for the years 1954-1961 shows no significant change in the distribution of the ages of these mothers. The increase in illegitimacy has been pretty much "across the board" for all age groups. It is interesting to note, however, that in 1960 slightly more than half of the out-of-wedlock births to non-Indian mothers occurred in the 15-19 age group.



NEEDS

The need for more storage space for vital registration certificates continues to grow more acute. The Board's storage space is actually smaller than that provided in many county offices. The vault originally designed for these records has long been outgrown and an additional vault on another floor is being used, but even this is not adequate.

The greatest need in the statistical activities part of the work is for more professional statistical talent to give the tabulations of public health data the detailed analysis they deserve. Since the installation of machine tabulation it is possible to produce many more tabulations than was formerly possible.

There are many areas of special public health problems that should be undertaken. Some of which would be to: (1) determine why a higher percent of infants are born prematurely in some areas of the State than in others, (2) to pinpoint the areas of the State experiencing increases in cancer of certain sites and (3) to evaluate techniques to further reduce the preventable deaths of infants. These special studies cannot be undertaken without additional professional statistical staff.

MICROBIOLOGY LABORATORY

THEN . . .

Three months after the legislature created the Montana State Board of Health, a bacteriologist was employed. He and the Executive Officer were the only two professional staff members in November 1901.

NOW . . .

During the first six months period, 18 examinations were made, most of them for diphtheria.

The laboratory now runs well over 60,000 examinations on over 50,000 specimens annually.

PROGRAM OBJECTIVES AND ACTIVITIES

Laboratory services are provided to other State Board of Health Divisions and certain other State Departments. It also provides services to local health departments and to physicians, clinics and hospitals for the diagnosis of infectious diseases.

The laboratory administers the premarital blood test law and has the responsibility to register, evaluate, and approve all private clinic and hospital laboratories in the State where serologic tests for syphilis are made. These serologic tests include the prenatal and premarital blood tests.

The laboratory functions are divided into the following categories: administrative; diagnostic bacteriology; sanitary bacteriology; diagnostic virology; syphilis serology and general services. General services include the glassware cleaning and preparation, media preparation, shipping of specimen containers and care of the laboratory animals.

Attempts to meet the increased demand for service has been a challenge with the definite budgetary limitations during the biennium. In part, this was met by reducing and eliminating less productive tests. Examples of these were limitations of blood grouping and Rh factor determinations, a service which is readily available locally in most areas. Also limited is the routine examination of spinal fluid specimens by the colloidal gold test, as an indication of syphilitic infection.

SERVICES

The following table show the comparative statistics for the current report period and the last biennium.

COMPARATIVE STATISTICS—SPECIMENS AND EXAMINATIONS

1958-60 — 1960-62

EXAMINATIONS	Specimens 1958-60	Specimens 1960-62	Gain or Loss	Examinations 1958-60	Examinations 1960-62	Gain or Loss
Bacteriological						
Syphilis	71,846	69,614	—2,232	78,539	78,386	— 153
Gonorrhea	594	884	+ 290	594	884	+ 290
Diphtheria	219	352	+ 133	219	352	+ 133
Enteric Cultures	944	3,244	+2,300	944	3,244	+2,300
Tuberculosis	4,785	5,266	+ 481	10,663	11,886	+1,223
Rh Factor	6,081	1,409	—4,672	6,081	1,409	—4,672
Blood grouping	26	5	— 21	4,823	1,378	—3,445
Lactobacilli Counts	664	343	— 321	664	343	— 321
Agglutinations	2,278	2,214	— 64	13,444	13,358	— 86
Dairy Products	848	1,026	+ 178	848	1,026	+ 178
Water Analysis-Bacterial	16,464	18,001	+1,537	16,464	18,001	+1,537
Miscellaneous	2,643	2,486	— 157	2,643	2,675	+ 32
TOTAL SPECIMENS	107,212	104,844	—2,368			
TOTAL EXAMINATIONS				135,956	132,942	—3,014

Virology—(See Report Virus Laboratory, Table II, for detailed classification.)

	1958-60	1960-62	Gain or Loss
TOTAL SPECIMENS RECEIVED	1,848	1,044	— 804
TOTAL EXAMINATIONS ATTEMPTED	6,914	759	—6,155
TOTAL NUMBER SPECIMEN CONTAINERS AND OTHER MATERIAL SHIPPED			187,698 pieces

The preceding table shows that the total of 132,942 tests, performed in the 1960-62 biennium, is 8,117 less than the 1958-60 biennium. This decrease was brought about principally by the limitations mentioned above. However, this does not represent a similar work load reduction since increased specimens received in tuberculosis and enteric diseases entailed many more time consuming, extensive and involved laboratory testing procedures and studies.

SYPHILIS

As is seen from the table on page 65, tests upon blood received for syphilis serology comprise the largest number of the total examinations.

While there has been a decrease in the number of bloods submitted for premarital purposes, there is an increased number of reactive bloods referred for confirmatory tests from the 52 private clinic and hospital laboratories. These local laboratories are not equipped to run these tests.

The RPCF (Reiter Protein Complement-Fixation) Test is now run on a routine service basis and referral of selected cases for TPI studies continues to be made to the V. D. Research Laboratory of the U. S. Public Health Service. These tests are applied in those cases where there is a reasonable doubt as to the significance of reactions obtained in the standard serology tests for syphilis.

A program review of the syphilis serology laboratory was made April 23-25, 1962, by a field consultant from the V. D. Research Laboratory.

GONORRHEA

In addition to the microscopic examination of smears for gonococci, a suitable culture media, Stuarts Transport Media is available upon request for submission of materials by mail for isolation and identification of this organism.

TUBERCULOSIS

The total number of examinations for tuberculosis increased from 10,663 in 1958-60 to 11,886 in 1960-62. This increase was probably due to the assistance given to the follow-up program stimulated by the Disease Control Division. Laboratory studies for demonstration of active cases of tuberculosis were required for the check of contacts and to evaluate the effectiveness of treatment in known cases. These studies consist of microscopic, cultural, and animal virulence procedures.

Despite effective early case finding and drug therapy there still remains a significant reservoir of this infection in the State. The Board's Control Program is described on page 23 of this report.

DIPHTHERIA

The number of throat specimens found positive for diphtheria increased from 5 in 1958-60 to 17 in 1960-62. Assistance was given for determination of virulent cases and carriers in two outbreaks of this disease in different parts of the State.

The presence of virulent diphtheria organisms in the community emphasizes the need for widespread continued immunization against diphtheria.

ENTERIC PATHOGENS

A total of 3,244 cultures for organisms of the typhoid-dysentery group were made in the period of 1960-62, of which 2,419 occurred in the 1961-62 fiscal year. This sudden rise was accelerated by an outbreak of typhoid fever which occurred early in 1962 at the State Hospital among a group of its patients. Over 1300 stool specimens were examined to determine the extent and source of the outbreak, resulting in the finding of 9 positive cases or carriers of **S. typhi**. Additional carrier status studies are continuing.

Outbreaks on several of the Indian Reservations also resulted in extensive sampling throughout the year. It has become increasingly evident in recent years that a high proportion of acute diarrhea cases are primary infections with the intestinal pathogens belonging to the **Salmonella** and **Shigella** groups. Studies show that the increasing number of cases reported, from which one or the other of these enteric organisms was isolated, is due in part to improved laboratory methods for isolation and in part to an actual increase in the incidence of cases.

A summary of the confirmed isolations of this group of organisms, made in the SBH laboratory and reported during the five-year period 1956-61, showed that 20 types of enteric pathogens were reported as isolated from 143 individual patients in 20 counties.

On the face of the reports, it would seem in a rural State the size of Montana, that 100 cases of enteric illnesses presented no problem. However, when one considers that it is estimated that no more than 10% of the probable cases have laboratory specimens submitted, the problem may be greater than meets the eye.

SANITARY BACTERIOLOGY

Examinations cover drinking water samples from all of the public municipal water supplies in the State as well as private, farm, school, and other types of water supplies.

There was an increase in the number of examinations of water samples as is shown in the table below. This increase was due to meeting the minimum requirements of the U. S. Public Health Service for frequency sampling of municipal water supplies. Also contributing to the increase are the state-wide cooperative water pollution studies. Had there been sufficient staff available to process them, the number of samples accepted for study could easily have been doubled to meet the demands.

Bacteriological examination was also made on ice cream and butter samples as a service to the Dairy Division of the Department of Agriculture.

Samples of food products suspected of causing food poisoning illnesses were received. Fortunately, no outbreaks of any great extent occurred during this two-year period.

SANITARY BACTERIOLOGY EXAMINATIONS

Water Analysis — Bacteriological (Numbers by source)

	1958-60	1960-62
Public Supplies	12,534	13,527
Private Supplies	2,201	2,380
Schools	320	340
U. S. Government	569	854
Railroad	30	4
Tourist Camps	153	185
Miscellaneous	72	34
TOTAL DRINKING	15,879	17,324
Swimming Pools	31	11
Sewage Pollution	482	666
GRAND TOTALS	16,464	18,001

Food Products — Bacteriological

Butter	7	
Ice Cream	841	1,026
Miscellaneous	25	18
TOTAL	873	1,044

VIRUS LABORATORY

Facilities for diagnostic studies for viral and rickettsial disease agents were first made available in 1958 through the Microbiology Laboratory Division. Since that time the virus laboratory section has been active in providing these services to the local health departments, physicians, clinics, and hospitals in Montana. As with any new program there has been a need to develop, throughout the State, an interest and appreciation of the importance of these agents in human disease. Information has been provided to physicians of the best types of specimens and methods of submission which will be most productive of the use of the laboratory for demonstration and isolation of causative disease agents.

The virus laboratory is well equipped and capable of carrying out work of a high quality but needs to be implemented by additional staff to



As Many As 125 Water Samples Are Received in a Single Day for Bacteriological Testing.

function at its fullest capacity. With the increase in knowledge of viruses, the discovery of new viruses, and the development and use of viral vaccines with many unknown potentials, the field of diagnostic virology continues to expand. The multiplicity of viral agents at large in the general population which confronts the efforts of any diagnostic virus laboratory are numerous and varied. Perhaps the hardest decision, particularly in a laboratory of limited means, is to determine the choice of direction in which to expand the man-hours of effort at its disposal in order to attain the most profitable results.

Due to the difficulty in recruiting qualified personnel trained in the field of virology, the diagnostic services offered the first half of this biennium were rather restricted in nature. However, now both serologic and isolation studies can be carried out for certain of the respiratory viruses, enteroviruses and viruses of the central nervous system.

In the 1960-62 biennium period, antibody titers against the following viral and rickettsial agents were determined by one or more of the serologic tests:

influenza A & B	western equine encephalitis
parainfluenza	Rocky Mountain spotted fever
adenovirus	Colorado tick fever
mumps	Q fever
Herpes simplex	measles

SUMMARY OF TESTS PERFORMED IN VIRUS LABORATORY JULY 1, 1960 - JUNE 30, 1962

Total specimens received	1,044
Total examinations	759
Types of Examination—Totals	
Serologic	
Complement-Fixation Tests	428
Total Positives	78
Virus Isolation Studies	331
Number Positive Isolations	42
Unsatisfactory Specimens	39
Tests Not Run	192
(Acute specimens only received)	

The total of 331 virus isolations entailed the use of 3,358 tissue culture tubes. While isolation of certain types of viruses is relatively simple, identification is frequently a long and tedious process involving the use of multiple types of anti-sera and other differential tests.

An outbreak in August and September of 1961 of a disease of the central nervous system was investigated and the causative agent was isolated and identified as a Coxsacki B5 virus. Sera collected from patients in this outbreak are being held and, when time permits, further follow-up studies will be done. These studies should enable the determination of the extent of the spread of this agent and furnish important epidemiologic data. Publication of these findings should be of help in evaluating future outbreaks of a similar nature, should they occur.

In December 1961, Influenza "B" virus was first detected in the State and through the cooperation of the physicians, the laboratory was able to diagnose the illness. Quite a number of cases occurred.

This laboratory also played an active role in the U.S. Public Health Service Influenza Surveillance Program in 1961. It was one of the first State laboratories to demonstrate the presence of influenzal encephalitis on the basis of serologic evidence.

In addition to the two above mentioned outbreaks, the laboratory also assisted in the diagnosis of aseptic meningitis and encephalitis by serologic methods. Mumps was one of the viruses found to cause these syndromes as were the Herpes simplex, Western Equine Encephalomyelitis and influenza viruses.

SPECIAL STUDIES IN VIROLOGY



759 Examinations were made by the Virus Laboratory Staff during the Biennium.

REGISTRATION AND APPROVAL OF LABORATORIES

There has been a continued improvement in the methods of evaluation and approval of local laboratories for the performance of serologic tests for syphilis. Approval is no longer based solely on application data but on personnel qualifications, technical performance in an annual evaluation survey, and observations during annual visits, of physical facilities, equipment and reagents.

In 1962 there were 52 registered laboratories of which 36 were visited in the first six months of 1962. It is planned to complete visits to the remaining 16 before the end of the year.

Relationships with local laboratories continue to be mutually helpful. It is hoped to extend the Board's evaluation-assistance program to cover a wider area of laboratory activities with a resulting assurance of consistently high standards of performance for all laboratories.

CONSULTATION AND TRAINING SERVICES

Consultation and referral services are available to all physicians and private clinical and hospital laboratories upon request. An interchange of information with the clinical pathologists in the State has proven most valuable.

Training in special areas of public health laboratory methods is given on a limited basis only, due to limited staff available for teaching purposes.

TRENDS

The role of the public health laboratory tends to change from a purely diagnostic function, to serving also as a referral center for special identification studies upon cultures and isolates, and other types of materials submitted from other clinical and hospital laboratories throughout the State, which lack facilities to carry out such studies.

Consultative and training services are becoming more in demand and a plan to meet these requests should be given consideration.

The growing emphasis on chronic diseases, other than communicable, brings a need for certain identifying laboratory procedures. An awareness of this trend should be kept in mind when future planning is being carried out.

A survey for the detection of phenylketonuria in newborn infants is being sponsored by the Children's Bureau, U.S. Department of Health, Education, and Welfare. One bacteriologist recently attended a course in blood screening techniques for this condition with funds allotted to this program by the Children's Bureau. Plans for a screening program, at least on a limited basis, are under way.

Multiphasic Screening Programs are proving to be of great value as case finding tools in certain areas of chronic disease detection studies. The laboratory provided serologic testing services recently to such a program carried out in one area of the State and 1,261 blood specimens were checked for syphilis serology. This screening program is described on page 48 of this report.

Beta-hemolytic streptococcus studies are carried out for the diagnosis and guide to treatment of rheumatic fever heart disease caused by this organism.

RECOMMENDATIONS

There is a continuing need for evaluation of the older and previously authorized services and curtailment of outmoded tests to meet developing needs of new programs. Provision for refresher courses in the new laboratory techniques should be made for the technical staff if the Board's laboratory is to maintain its rightful leadership in the field of public health laboratory responsibilities.

In the virology section there is a continuing need for diagnostic services especially those related to: respiratory viruses; enteroviruses; central nervous system viruses; miscellaneous viruses and rickettsiae.

A continuing education program is needed to inform those using the virology laboratory of the proper manner of selection and submission of clinical materials for viral laboratory studies.

Investigation should be made into the use of additional tissue culture systems which have been demonstrated to be more sensitive to a wider range of viral agents than those currently in use. A greater use of animals

for isolation purposes should also be made as facilities permit. Additional new types of viral antigens for use in complement-fixation tests should be employed to extend the scope of antibody detection.

For this reason it has become necessary to enforce stricter criteria for the performance of individual tests and to establish closer liaison between the laboratory and the physician to effect a reduction in the number of tests requested and those attempted.

The most effective use of the virology laboratory, when an outbreak or epidemic threatens or seems possible, is to serve as a surveillance program in measuring the probability or lack of probability of the outbreak or epidemic hitting a community. This is carried out by determining which disease agents are entering or are currently in a community.

To meet the increasing demands and to provide the needed services, more staff is needed in all sections of the laboratory work.

PART III. ADMINISTRATION AND FINANCIAL TABLES

BUDGET

Some progress has been made in public health programs during the biennium as evidenced by the foregoing pages of this report. This has been accomplished despite difficulties imposed by the lack of State funds and a curtailed staff in some of the programs.

The only new programs initiated to meet the ever changing public health problems in the State were those supported by Federal grants. Advantage could be taken of those Federal funds for which matching was available or of some special project funds that did not require matching.

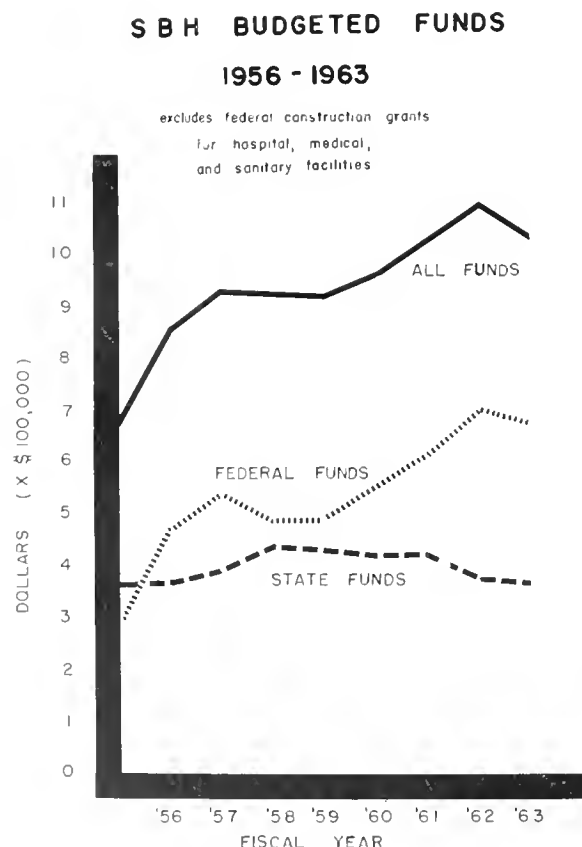
Some of the continuing basic programs have been curtailed although the need has not yet been met. The State funds made available by appropriation were decreased for the second consecutive biennium. The 1961-63 State funds were nine percent below the 1959-61 biennium. This decrease made it necessary to continue the retrenchment begun in 1959. Only by shifting to Federally supported programs was it possible to maintain many of the employed staff members.

State funds made up 41% of the budget in the fiscal year 1961, and only 35% in the 1962 fiscal year.

The 1961 expenditures of \$969,122 and the 1962 expenditures of \$989,568, averaged \$60,000 more than the \$919,220 expended in the 1960 fiscal year. Due to the inability to recruit, all the budgeted funds could not be utilized.

In addition to the availability of more Federal funds, another help was the procedure for utilizing insurance payments in maintaining the Crippled Children's Services. These funds were utilized for physician and surgical fees and hospitalization. In the past several years there was a necessity to curtail authorizations for crippled children due to a shortage of funds. This biennium the funds were adequate and the demands for service could be met.

A summary of the State Board of Health budgets from 1956 follows:



MONTANA STATE BOARD OF HEALTH

Budgets and Expenditures State and Federal Funds

FISCAL YEARS 1956 to 1963

Year	Total	Federal*	State**
1963 Budgeted (Preliminary)	\$1,049,851	680,854	369,000
1962 Budgeted	1,087,985	706,685	381,300
Expended	989,568	618,768	370,800
1961 Budgeted	1,029,851	610,180	419,674
Expended	969,122	575,970	394,152
1960 Budgeted	972,101	553,374	418,727
Expended	919,220	534,962	384,258
1959 Budgeted	926,366	493,316	433,050
Expended	897,837	479,552	418,285
1958 Budgeted	932,970	498,982	433,988
Expended	872,225	475,203	397,022
1957 Budgeted	944,522	553,595	390,927
Expended	854,877	523,751	331,126
1956 Budgeted	851,706	475,463	376,243
Expended	795,106	459,595	335,511

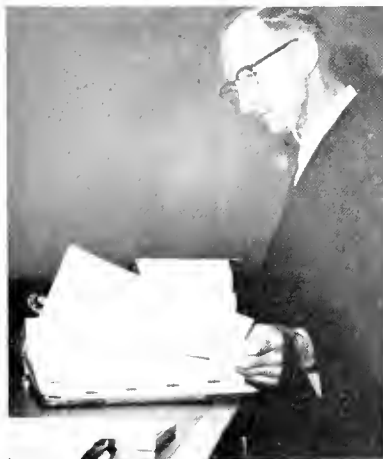
*Excludes Federal construction grants for hospital, medical and sanitary facilities.

**Contributions are included in State funds.

As required by the State law the divisions of the Board of Health collected and deposited into the State general fund the **receipts for licenses and certified copies of certificates issued**. During the biennium \$95,465 was deposited in the General Fund. In addition, \$6,433 was collected for water analyses performed for private individuals and deposited in the special fund used to defray a portion of the cost of making the bacteriological water tests. The major portion of the increase in the collections over the previous biennium was due to revised billing procedures permitting the payment of fees for public water testing during the year in which the service is rendered.

Collections From Fees

	Water Fees Private	Vital Statistics	Water Fees Public	Septic Tank Licenses	Hospital Licenses	Food & Drug Licenses	Total
1960-61	\$3,011	\$8,598	\$14,645	\$249	\$585	\$16,120	\$43,208
1961-62	3,422	9,347	27,674	365	595	17,287	58,690
Total	\$6,433	\$17,945	\$42,319	\$614	\$1,180	\$33,407	\$101,898



The Personnel in the Administrative Office Are Charged With the Business Management and Personnel Actions of the State Board of Health.

PROGRAM CHANGES REFLECTED BY BUDGETS

One of the program changes affected by the budget was in the Narcotic and Alcoholism Education Program which has been considerably curtailed. Furthermore, it is not possible to restore the support of local health departments to the level prescribed by the standards, even though such restoration would be highly desirable because of the lack of basic public health services throughout the State. These have been described on pages 46 to 50 of this report.

The payment of physician fees and the distribution of free biologicals for Well Child Conferences also had to be discontinued.

New Federal monies have made it possible to improve the Cancer Control program and for the first time in the history of the State Board of Health it is possible for a physician to devote his full time to cancer control.

Another new program made possible is the Out-of-Hospital Program for the Chronically Ill and Aged. Also it has been possible to initiate a survey of conditions relating to air pollution.



Accurate Record Keeping is a Basic Requirement in the Administration of the State Board of Health.

PERSONNEL

Staff turnover during the biennium has been about average for both the professional and technical classifications and the clerical staff. The turnover for clerical personnel, although in the same range as it was in 1960, is considerably below the average for the 1955-60 period.

In professional and technical fields, some staff vacancies have existed for many months. The physician director position for the Child Health Services Division has been vacant two years, with few applicants in response to recruitment efforts.

There are staff shortages at both the State and local levels. There is a need to recruit microbiologists, public health physicians and public health nurses for consultant and staff positions at the State level as well as public health physicians, nurses and sanitarians at the local level.

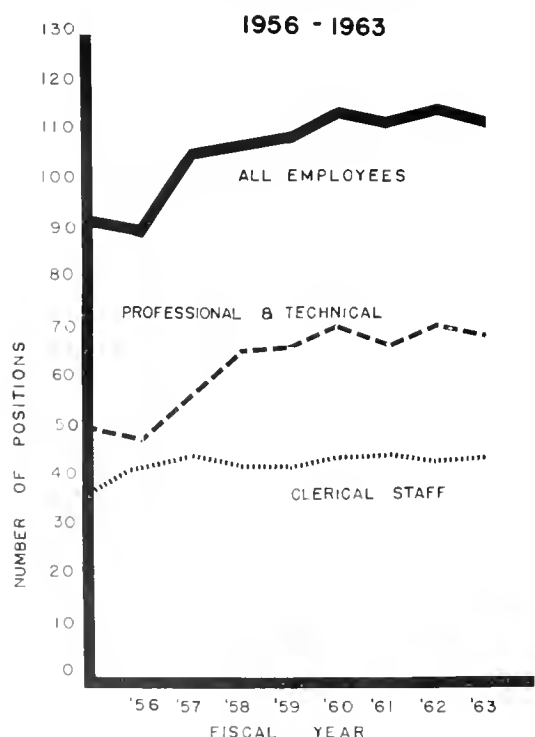
These shortages may be explained by several reasons. First, there are not enough persons trained for all the public health categories, therefore, bidding for the services of those who are trained is on a nationwide basis.

Salaries, not high enough to meet the competition elsewhere in the nation, is another serious factor.

Many persons employed in Montana have obtained excellent experience and training and then have moved on to other States. There they meet the requirements and receive salaries which cannot be met in Montana. Thus, many persons are trained at the expense of Montana departments and after becoming qualified for responsible work, take positions in agencies outside the State.

Funds for continuing education to up-grade staff without adequate preparation have been dropped from the State

SBH BUDGETED FULL-TIME POSITIONS



Board of Health budget for the past several years which makes it necessary in certain categories to underfill the positions.

To meet the needs for travel, supplies and incidental expenses for the general operation, the use of lapsing salaries has been helpful. Experience has shown a vacancy factor of five to six percent usually exists in both the basic and special projects. This has made possible the utilization of a portion of these funds for certain items for which the budgeted funds have not been adequate.

The space allocated to the staff of the State Board of Health is not adequate, nor is some of it well suited for the activities for which it is necessarily being used. The staff is housed in the State Laboratory Building, the old State Board of Health Building and the Annex.

There is a need for renovating the first and second floors of the State Board of Health Building and for remodeling the third floor. The third floor housed the Microbiological Laboratory before the State Laboratory Building was completed. This space, now vacant, with the exception of two rooms, cannot be occupied for general offices until old laboratory benches, shelving and partitions are removed and the rooms renovated.

The Annex Building, which houses the Child Health Services and Dental Divisions, is in need of general renovation.

No money was appropriated for the repair of State buildings and property for the biennium. Agencies which operate on limited funds must consider making any needed repairs and replacements at the expense of the programs and therefore consideration is given to these items only when dire emergency situations exist.

In the spring of 1961, the motor of the air conditioner in the State Laboratory Building burned out and has since remained unrepaired, due to the lack of funds. This is an important item particularly in the laboratories which utilize autoclaves, dishwashers and other equipment that give off heat. In the absence of the air conditioner this leads to a loss of staff efficiency. It would be highly desirable for one central State agency to have an appropriation for the repair and upkeep of buildings housing State Government.

SUMMARY OF EXPENDITURES AND ENCUMBRANCES BY OBJECT

Fiscal Years 1961 and 1962

Object	State and Federal Funds Exclusive of Construction Grants		
	July 1, 1960 June 30, 1961	July 1, 1961 June 30, 1962	Total
Salaries	\$563,130.04	\$600,539.81	\$1,163,669.85
Travel	43,809.58	19,633.37	93,532.95
Social Security	13,571.13	14,865.71	28,436.87
P.E.R.S.	18,335.30	20,514.06	38,849.36
Office Expense	73,140.20	56,728.59	129,868.79
Scientific Supplies	11,242.22	15,873.91	27,116.13
Merit System	8,769.95	8,127.43	16,897.38
Industrial Accident Insurance	7,371.79	—	7,371.79
Training	2,224.30	—	2,224.30
Drs. Fees, Clinics & X-Rays	78,130.36	68,043.02	146,173.38
Hospitalization	70,070.79	67,713.79	137,784.58
Appliances	8,848.07	8,750.36	17,598.43
Miscellaneous	9,308.65	8,837.51	18,146.16
Aid to Local Areas	61,139.56	69,940.25	131,079.81
TOTALS	\$969,121.91*	\$989,567.81*	\$1,958,689.78
* Encumbrances	1961 1962	\$18,002.62 \$51,026.68	

SUMMARY OF EXPENDITURES AND ENCUMBRANCES, By Sources

	July 1, 1960 to June 30, 1961			July 1, 1961 to June 30, 1962		
	State	Federal	Total	State	Federal	Total
ADMINISTRATION	\$ (21,377.13)	\$ (59,566.95)	\$ (80,944.08)	\$ (22,863.91)	\$ (60,105.67)	\$ (82,969.58)
General	21,377.13	48,632.70	70,009.83	22,863.91	51,978.21	74,842.15
Merit System	—	8,709.95	8,709.95	—	8,427.43	8,427.43
Training	—	2,224.30	2,224.30	—	—	—
RECORDS AND STATISTICS	(11,089.56)	(981.35)	(12,070.91)	(12,102.60)	(728.12)	(12,830.72)
DISEASE CONTROL	(63,057.80)	(68,835.15)	(131,892.95)	(56,320.51)	(100,172.78)	(156,493.29)
General	60,760.53	36,233.42	96,993.95	55,220.89	39,911.46	95,132.05
Cancer Special	—	—	—	—	11,292.80	11,292.80
Drugs and Biologics	—	1,520.78	1,520.78	—	—320.22*	—320.22*
Heart Diagnostic Center	2,297.27	19,380.00	21,677.27	1,099.62	24,472.92	25,572.51
Venereal Disease Special Project	—	7,678.27	7,678.27	—	6,070.32	6,070.32
Chronic Illness	—	—	—	—	9,832.32	9,832.32
Impr. Patient Care in Nursing Homes	—	4,022.68	4,022.68	—	8,913.48	8,913.48
CHILD HEALTH SERVICES	(81,764.82)	(201,313.33)	(286,018.15)	(61,790.78)	(205,780.23)	(267,571.01)
Maternal and Child Health	19,396.81	36,277.44	55,674.25	3,448.72	30,033.87	33,482.59
Crippled Children	2,314.86	28,633.41	30,948.27	14,502.79	25,189.60	39,692.39
Surgical, Drs. Fees and Clinics	7,751.47	39,707.71	47,459.18	9,030.37	30,576.52	39,606.89
Hospitalization	11,824.78	44,635.16	56,459.94	10,417.58	46,509.09	56,926.67
Cerebral Palsy Center	4,631.44	—	4,631.44	22,203.71	20,908.37	43,112.11
Appliances	1,788.46	7,059.61	8,848.07	2,187.58	6,562.78	8,750.36
Cleft Palate Program	—	45,000.00	45,000.00	—	46,000.00	46,000.00
PUBLIC HEALTH NURSING	(1,032.07)	(18,478.26)	(19,510.33)	(2,976.71)	(15,761.73)	(18,738.47)
HEALTH EDUCATION	(25,281.86)	(17,950.15)	(43,232.01)	(13,742.87)	(27,570.92)	(41,313.79)
General	18,223.68	17,950.15	36,173.83	10,602.12	27,570.92	38,173.04
Narcotic and Alcohol Education	7,058.18	—	7,058.18	3,140.75	—	3,140.75
ENVIRONMENTAL SANITATION	(77,872.40)	(28,441.55)	(106,313.95)	(70,923.78)	(46,838.97)	(117,762.75)
General	46,668.10	18,719.07	65,387.17	40,645.27	26,748.97	67,394.24
Water Pollution	31,049.32	9,722.48	40,771.80	30,180.77	20,090.00	50,270.77
Sanitarians' Registration Council	154.98	—	154.98	97.74	—	97.74
LABORATORIES	(40,636.70)	(50,669.42)	(91,306.12)	(51,034.28)	(38,550.23)	(92,584.51)
Microbiology	40,636.70	26,964.95	67,601.65	45,248.38	28,566.26	73,814.64
Virology	—	23,704.47	23,704.47	8,782.90	9,983.97	18,766.87
HOSPITAL FACILITIES	(33,528.15)	—	(33,528.15)	(31,014.45)	—	(31,014.45)
DENTAL HEALTH	(5,571.14)	(21,717.83)	(27,288.97)	(1,421.71)	(17,285.04)	(18,706.75)
LOCAL HEALTH SERVICES	—	(407,016.32)	(407,016.32)	—	(116,585.52)	(116,585.52)
Mental Health Special Project	—	45,876.76	45,876.76	—	46,645.27	46,645.27
Aid to Local Areas	—	61,139.56	61,139.56	—	69,940.25	69,940.25
TOTAL	\$394,151.63	\$574,970.31	\$969,121.94	\$360,188.63	\$629,379.21	\$989,567.84

* Refunds exceeded expenditures.

MONTANA STATE BOARD OF HEALTH
TOTAL EXPENDITURES AND ENCUMBRANCES
FISCAL YEARS — 1957-1962

	1957	1958	1959	1960	1961	1962
ADMINISTRATION	\$ (136,826.40)	\$ (137,589.38)	\$ (66,739.36)	\$ (60,259.37)	\$ (80,944.08)	\$ (82,969.58)
General	91,088.03	83,914.18	53,361.16	50,610.54	70,009.83	71,842.15
Merit System	7,520.10	8,024.17	8,115.09	8,466.52	8,709.95	8,127.43
Training	9,765.19	9,173.02	5,263.11	1,182.31	2,224.30	—
RECORDS AND STATISTICS ¹	28,453.08	36,178.01	(38,693.89)	(40,433.85)	(12,070.91)	(12,830.72)
DISEASE CONTROL	(151,469.99)	(89,325.13)	(93,866.48)	(108,790.46)	(131,892.95)	(156,493.29)
General	58,127.91	71,598.87	71,203.06	71,851.98	96,993.95	95,132.05
Cancer Special	—	—	—	—	—	11,292.80
Polio Vaccine Dist. & Use	75,086.82	—	—	—	—	—
Chest X-Ray Survey	6,006.31	—	—	—	—	—
Drugs & Biologics	5,565.00	—838.72	418.79	1,739.95	1,520.78	—320.22
Heart Diagnostic Center	6,383.95	14,630.35	17,977.49	24,164.12	21,677.27	25,572.54
Venereal Disease	—	3,934.63	4,267.14	11,034.41	7,678.27	6,070.32
Chronic Illness	—	—	—	—	—	9,832.32
Impr. Patient Care—Nursing Homes	—	—	—	—	4,022.68	8,913.48
CHILD HEALTH SERVICES	(245,828.89)	(270,029.39)	(310,804.34)	(304,936.35)	(286,018.15)	(267,571.01)
Maternal and Child Health	46,454.50	42,878.97	56,797.74	63,311.96	55,674.25	33,482.59
Crippled Children	27,467.91	31,683.64	39,256.52	38,905.04	30,945.27	39,692.39
Surgical, Drs. Fees & Clinics	37,115.98	44,732.26	46,112.50	41,279.61	47,459.18	39,606.89
Hospitalization	46,992.09	56,507.88	67,533.19	59,478.83	56,459.91	56,926.67
Cerebral Palsy Center	44,255.57	44,327.15	45,432.39	43,433.54	41,631.44	43,112.11
Appliances	5,363.20	5,889.62	5,669.78	8,178.10	8,848.07	8,750.36
Cleft Palate Program	38,179.64	44,009.87	50,002.22	50,349.24	45,000.00	46,000.00
PUBLIC HEALTH NURSING	(15,766.93)	(23,879.55)	(23,340.67)	(22,168.02)	(19,510.33)	(18,738.47)
HEALTH EDUCATION	(36,431.74)	(43,398.95)	(46,976.43)	(43,581.70)	(43,232.01)	(41,313.79)
General	33,697.91	37,621.02	41,409.07	37,545.35	36,173.83	38,173.04
Narcotic and Alcohol Education	2,733.83	5,777.93	5,567.36	6,039.35	7,058.18	3,140.75
ENVIRONMENTAL SANITATION	(72,696.13)	(89,725.36)	(97,590.27)	(107,261.20)	(106,313.95)	(117,762.75)
General	72,696.13	57,790.54	65,114.26	67,073.32	65,387.17	67,391.21
Water Pollution	—	31,934.82	32,476.01	40,071.64	40,771.80	50,270.77
Sanitarians' Registration Council	—	—	—	116.24	154.98	97.71
LABORATORIES	(84,443.36)	(121,672.59)	(99,904.10)	(90,533.46)	(91,306.12)	(92,581.51)
Microbiology	54,042.14	72,826.78	69,368.50	66,632.76	67,601.65	73,814.64
Virology	30,401.22	48,845.81	30,535.60	23,900.70	23,704.47	18,766.87
HOSPITAL FACILITIES	(25,182.86)	(28,930.19)	(30,891.29)	(31,546.31)	(33,528.15)	(34,014.45)
DENTAL HEALTH	(16,167.78)	(11,101.94)	(18,536.22)	(25,385.02)	(27,288.97)	(18,706.75)
LOCAL HEALTH SERVICES	(70,063.41)	(56,572.98)	(68,118.39)	(84,321.57)	(107,016.32)	(116,585.52)
General	13,567.96	3,328.52	—	—	—	—
Mental Health Unit	—	—	—	13,080.04	45,876.76	46,645.27
Aid to Local Areas	56,495.45	53,244.46	68,118.39	71,241.53	61,139.56	69,940.25
TOTAL	\$854,877.49	\$872,221.56	\$895,461.44	\$919,220.31	\$969,121.94	\$989,567.84
Federal	523,750.80	475,202.62	479,552.16	534,961.66	574,970.31	629,379.21
State	328,765.31	393,356.21	415,909.28	384,258.65	394,151.63	360,188.63
Other	2,361.38	3,665.73	—	—	—	—

¹ Included in Administration 1957 through 1958.

² Refunds exceeded expenditures.

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